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THE MEAL TASTES SWEETER: DOCUMENTATION OF YOUNG'S MILL WEST POINT LAKE, TROUP COUNTY, GEORGIA



PREPARED FOR AND FUNDED BY:
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MOBILE DISTRICT

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PREPARED BY:
BROCKINGTON AND ASSOCIATES
ATLANTA, GEORGIA
1989

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		Dam
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		Photography
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ABSTRACT

Architectural and historical documentation of Young's Mill, West Point Lake, Georgia, was conducted for the Corps of Engineers, Mobile District. The work at the 1870s through 1940s mill included both property specific and contextual archival research, 4 X 5 inch format photography, measured drawings, and detailed mapping of the site. The current remains include a rock and cement dam with two end flumes, stone piers from the saw mill and grist mill, piers and a chimney from one cabin, the chimney from another cabin, and a store/office building with standing walls.

The history indicates that Young's grist mill was built in the middle 1870s, while the saw mill was built prior to 1896. Throughout the history of the mill, it was owned by Mr. Robert M. Young Sr. or his direct descendants. The saw mill was utilized only to meet the needs of the Young family holdings, while the grist mill served much of the surrounding country. Both mills were powered by Leffel mixed flow turbines. The operation of the grist mill continued through the 1940s, long after most water powered grist mills had disappeared from the Georgia economy. It is argued that the wealth of the Young family and the continued demand for traditional, stone-ground meal were responsible for the lifespan of Young's Mill.

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THE MEAL TASTES SWEETER:
DOCUMENTATION OF YOUNG'S GRIST AND SAW MILLS,
WEST POINT LAKE,
TROUP COUNTY, GEORGIA

Technical Report to Accompany Portfolio
of Photographs and Measured Drawings

Sponsored By:

DEPARTMENT OF ARMY, CORPS OF ENGINEERS
MOBILE DISTRICT
CONTRACT NO. DACW01-88-C-0123

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July 1989

ABSTRACT

Architectural and historical documentation of Young's Mill, West Point Lake, Georgia, was conducted for the Corps of Engineers, Mobile District. The work at the 1870s through 1940s mill included both property specific and contextual archival research, 4 X 5 inch format photography, measured drawings, and detailed mapping of the site. The current remains include a rock and cement dam with two end flumes, stone piers from the saw mill and grist mill, piers and a chimney from one cabin, the chimney from another cabin, and a store/office building with standing walls.

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ACKNOWLEDGEMENTS

The Mobile District is thanked for their support and interest throughout this project. In particular, Ms. Dottie Gibbens (Technical Officer) and Mr. Jimmie G. Smith (Contracting Officer) are commended for their patience in dealing with unpredictable lake levels and schedule modifications.

Several residents of the LaGrange area offered valuable information concerning Young's Mill. Mrs. Helen Young provided photographs and recollections of the mill, while Mr. Wiley Williams consented to an informative interview. Mr. "BoPeep" Scott offered information on his tenure at the mill, and Mr. Emmett Fling told of his father's span as miller. Mr. Don Yates, a former student at LaGrange College, contributed indirectly by interviewing Mr. Joe Young (now deceased) about the mill in 1980.

Fellow professionals offered advice and assistance during the Young's Mill project. Mr. Joe Joseph (New South Associates) brought to our attention the Vanishing Georgia photograph of Young's Mill, and offered other leads on mill technology. Mrs. Martha Anderson and Mr. Danny Knight of the Troup County Archives provided research aids and directions. Dr. Gregory Jeane (Auburn University) discussed the mill with us on several occasions. Mr. Ken Brown, of Kvaerner Hydro Power, Inc. (formerly Leffel Co.) provided turbine order records for Young's Mill. Mr. Ron Fain of Nora Mills, Helen, Georgia, gave us permission to crawl all over his operating turbine powered grist mill. All these people are thanked heartily for their contributions.

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Chapter 1. INTRODUCTION

West Point Lake, Georgia and Alabama, was completed in 1975, and provides hydroelectric power, flood control, and a major recreation area. The West Point Dam, which created a 25,900 acre impoundment, represents only the latest example in a long tradition of water powered technology in the region. The remains of a much earlier example, Young's Mill, are inundated by West Point Lake during high pool periods (Figure 1). This report documents the history and physical remains of Young's Mill, and discusses the establishment and operation of the mill in relation to regional developments.

THE CURRENT REMAINS OF YOUNG'S MILL

Young's Mill was established before 1876, and survived as a working grist and saw mill into the 1940s. Its current remains include a stone and cement mill dam with two side flumes, piers from the sawmill structure and the grist mill structure, piers and a chimney from a related two story building, the standing walls and chimney of a store/office, the standing chimney of a probable domestic structure, and a poured concrete road providing access to the grist mill (Figure 2). The former mill pond of approximately 10 acres is heavily silted but discernible.

The mill is located on Beech Creek, in Troup County, Georgia (Figure 3). It is situated just south of Young's Mill Road, approximately three miles (5 km) north of the City of LaGrange, Georgia. The mill is designated as archaeological site 9Tp478. The top of the mill dam measures 631.4 feet above mean sea level (amsl), and so is inundated when West Point Lake reaches its full pool elevation of 635 feet amsl.

RESEARCH APPROACH

While a major goal of the present project was to document in detail the remains of Young's Mill, it was also necessary to reconstruct the history of the mill. In addition, it was important to place the mill in the technological and economic contexts of the time and region of operation. Accordingly, the research effort was designed to specifically address the eight technological and nine economic research questions offered in the research proposal. The basic tenets of the chosen research design were that technology cannot be fully understood simply by reconstructing the mechanisms of Young's Mill, and that the economic context of Young's Mill cannot be addressed only through reference to mill specific production statistics.

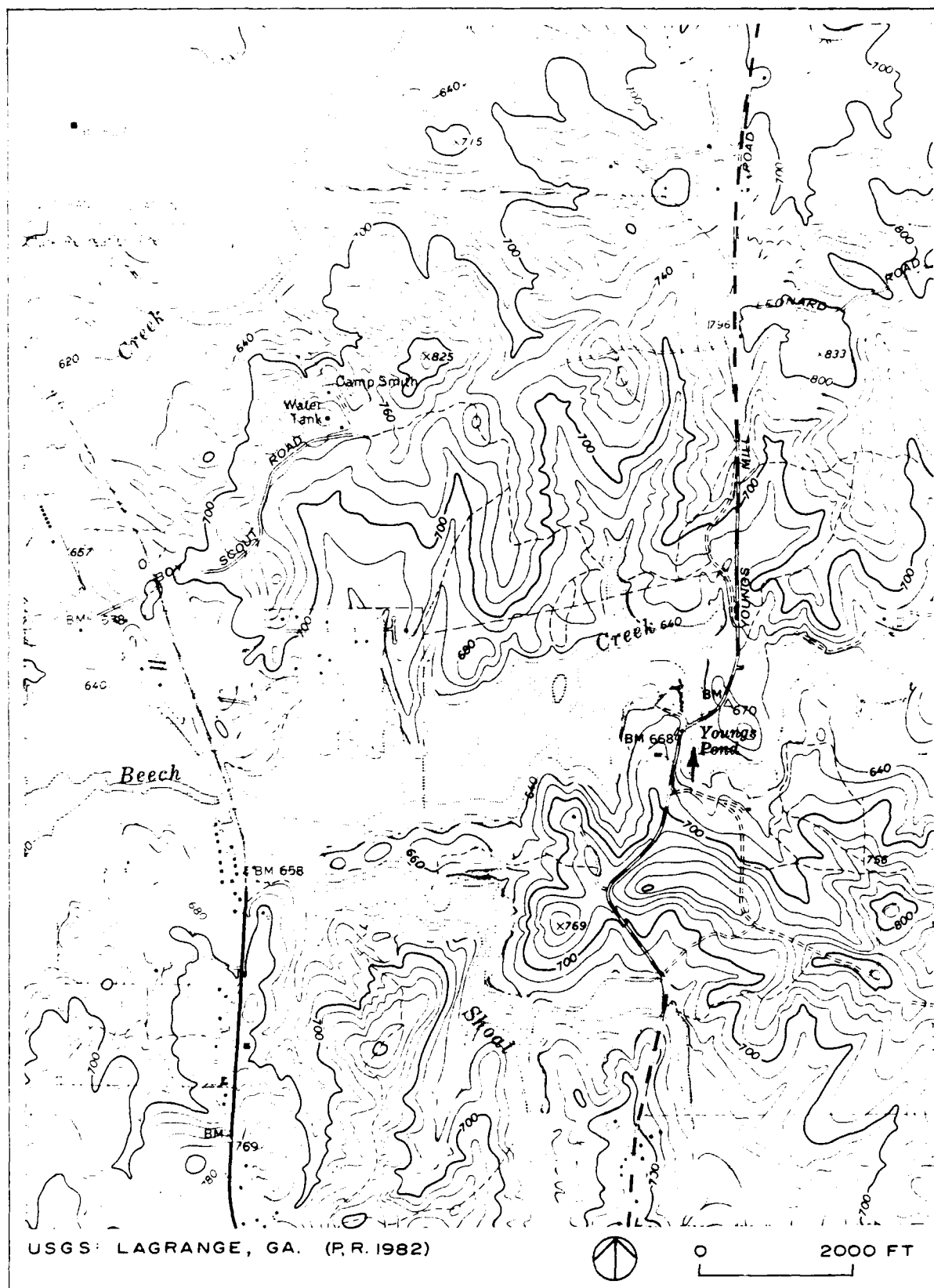


Figure 1. Arrow Indicates Location of Young's Mill (Shown as Youngs Pond on USGS La Grange, GA Quadrangle, 1982).



Figure 2. Aerial Photo View of Young's Mill Remains, 1 March 1988 , Scale 1" = 100', Roll #655, Frame 1212.



Figure 3. View Towards Southeast, East Flume/Saw Mill.

Four research tasks were undertaken in the documentation of Young's Mill. Archival research was conducted prior to fieldwork to guarantee that all significant features of the mill complex were identified for mapping, photography, and recording. The archival research was designed to compile both a general historic context for the mill and a site specific history.

The second task was detailed mapping of the current remains. The site plan was generated with a total electric survey station, with reference points every 10 m over the entire mapped area. The resultant site plan included 2.0 ft contours, key vegetation, modern reference datum points and features, and all features of the mill complex. In addition, reference datum points for the recording process were established during the mapping.

The third task was the architectural recording through measured drawings. The dam and flumes, associated piers and buildings, store, and domestic chimney were drawn in accordance with Historic American Building Survey (HABS) standards. All drawings were linked to actual elevations and locations through mapped datum points.

The fourth task was the photographic documentation of the remains. Photographs were produced in 4 by 5 inch format, in strict accordance with the HABS standards. All cultural features of the mill complex and general contextual views were produced. The results were archival quality prints and negatives.

REPORT FORMAT

This report complements the portfolio of measured drawings and photographs, and provides context and interpretations for those records. The report begins with a review of the research scope and methods in Chapter 2. Chapter 3 presents a developmental history of Troup County and the lower Piedmont of Georgia. The regional history of mill technology is addressed in Chapter 4, which also reviews other mill documentation projects in the Georgia Piedmont.

The economic history of Young's Mill is presented in Chapter 5. This chapter provides the basic data such as chain-of-title and use history, as well as delineating the economics of operation. Chapter 5 parallels the sixth chapter, which presents the technological history of Young's Mill. Chapter 6 discusses the natural setting, parameters of site and machinery selection, site structure, and changes in the mill through time. The final chapter synthesizes the data from the documentation, and specifically addresses the research questions offered in Chapter 2. The appendices

include transcriptions of oral history tapes (Appendix A), and a copy of the 1880 U.S. Census Special Schedules of Manufactures for Troup County (Appendix B).

Chapter 2. METHODS OF DOCUMENTATION

RESEARCH QUESTIONS

The historical/contextual research on Young's Mill was structured to address two sets of research questions; economic and technological. These research questions were presented in the Technical Proposal. While the details of some of the questions have been proven inaccurate by the present research, the questions nonetheless helped formulate the research plan and are therefore quite relevant. The economic questions included:

1. What were the initial capital outlay, operating costs, productivity, and profit through time of Young's Mill?
2. Why was the mill seat selected? What indicators suggest that a grist mill was a viable economic pursuit at the Young's Mill location? How familiar was the builder with local demographic and economic conditions? What was the political affiliation of the mill owner, and how did that possibly affect his economic predictions?
3. What was the targeted market for mill services? Was the owner aware, prior to construction, of a potential customer base? How stable did this market turn out to be, and how was the market affected by broader economic patterns of the state and country?
4. Who were the prime competitors of Young's Mill? What advantage did Young's Mill offer, and did the competitors make efforts to modify services to win customers away from Young's Mill? How did the rates charged by Young's Mill compare with other area mills?
5. Who developed Young's Mill and what was their source of capital? Was Young's Mill linked with other commercial operations in the area (beyond the mill store)?
6. What were the economic relations at Young's Mill between owners and workers? If non-family workers were utilized, what form(s) of compensation did they receive? Were workers' houses provided near the mill complex?

7. What system of payment was utilized at Young's Mill? Were transactions strictly cash, or did the miller grind for a share? Were there changes through time, in response to broad economic changes in the region, from one form of payment to another? To what extent was the mill owner involved in extending credit to area farmers, and could this practice have contributed to the closing of the mill?

8. What was the cost of the 1900 rebuilding and modifications? What economic factors entered into the decision to change from a Leffel style to the turbine system evidenced today? Was the second flume added at the time of dam reconstruction, and what was its targeted market and product? In terms of cost-benefit, were the alterations successful? Was the original mill insured, and how did the settlement (i.e., available capital) enter into the decision-making process?

9. Which economic factors changed to make Young's Mill no longer viable: regional cash flow, cost of operations/maintenance, demand, market for milled products, availability of workers, government requirements, or other economic commitments of the owner? When was West Point Lake first proposed and authorized, and was the mill closed partially in anticipation of the lake development? Were the mill auxiliaries (store and houses) maintained after the mill closed? Where did local growers have to go for a grist mill after the closing, and what hardships did the closing cause?

It should be noted that there inevitably will be some overlap between the economic and technological realms of mill research. The eight technological questions to be addressed during the Young's Mill documentation included:

1. What was the use span of the mill, and what water power technologies were prevalent during this period?

2. How was the mill seat selected? What natural and cultural factors were considered in site selection? Were access to an established road, proximity to a population aggregate, river width and gradient, and location of other grist mills important in establishing Young's Mill at this location? What role did land ownership patterns have on site selection?

3. How was the Leffel mill design (actually Leffel turbine technology) selected , and why was it particularly suited to the chosen mill seat? Was the mill based on earlier grist mills, published plans, or vernacular interpretation unique to Young's Mill? Who actually oversaw construction and design, and where did they gain their prior experience?

4. How was the mill changed after its apparent destruction in 1900? Had problems developed with the timber crib dam, such that it needed to be replaced with the present rock and cement dam? What increased efficiency was gained from the switch to the present turbine system?

5. Where did the turbines and other machinery originate? Were they produced to specifications, or was the mill designed around available hardware? Were the turbines and gates salvaged from an earlier mill in the area? To what extent were elements of the nineteenth century mill reutilized in the twentieth century edition?

6. Was a trained miller brought in to operate the mill, or was it operated by the owning family? If the latter, where did they learn the skills necessary to run a grist mill? Is there a family tradition of milling? How unique was mill ownership by women? Were the women owners involved in the day to day activities of the mill?

7. Was culturally accelerated sedimentation a factor in the demise of the mill? How quickly did the mill pond begin to silt-in, and were any modifications undertaken to alleviate the problem? Was the mill pond ever drawn down and excavated?

8. Was the mill significantly modified or refined after construction? Is there any evidence for a diversification of services beyond grist mill processing?

METHODS OF INVESTIGATION

Archival Research

The archival research was conducted in various collections and repositories including: Troup County Archives (LaGrange); Troup County Courthouse (LaGrange); Georgia Surveyor General Office (Atlanta); Georgia Archives and History (Atlanta); Georgia Collection, Map Library, and Trimble Papers (University of Georgia, Athens); Laboratory

of Archaeology (University of Georgia, Athens); and the LaGrange Public Library (LaGrange). In addition to relevant primary and secondary sources concerning Young's Mill, the literature of the Society for the Preservation of Old Mills was utilized. Table 1 summarizes the records examined.

The majority of the archival research was conducted by Mr. Jeffrey Gardner; Mr. Espenshade contributed research relevant to mill technology of the Georgia Piedmont.

Oral History

The oral history element of the historic research targeted key informants including: Mrs. Helen Young, widow of the last owner of Young's Mill; Mr. Wiley Williams, miller at Young's Mill from 1931 through 1937; Mr. Emmett Fling, whose father ran the mill from 1914 through 1919; and Mr. BoPeep Scott, who ran the mill from 1939 through 1944, and whose father ran the mill for three years before him. The most productive interview was with Mr. Williams. Mrs. Young and Mr. Fling had limited firsthand knowledge of the mill, and the memory of Mr. Scott was not clear. The interview with Mr. Williams was a free form question and answer session which lasted approximately three hours. It was tape recorded, and a transcript is included in Appendix A.

Another interview utilized was a 1980 recording of a conversation between Mr. Joseph L. Young and Mr. Don Yates, then a history student at LaGrange College. A copy of this tape was provided to us by Mrs. Young. Much of the information contained in the tape is found in Yates' (1980) research report on the mill. A transcript of the Joseph L. Young interview is included in Appendix A.

Site Plan Mapping

The site plan mapping of Young's Mill was undertaken to achieve three goals:

1. to record the natural context of the mill seat;
2. to relate the various site structures to local topography;
3. to provide datum points to facilitate the photography and measured drawings.

The difficulties in mapping rugged terrain around water precluded the practical use of steel tape for distances. Similarly, the problems with relying on stadia readings for

TABLE 1. Archival Repositories and Sources Examined.

REPOSITORY	LOCATION	DATA SOURCES
Troup County Courthouse	LaGrange	Land Records Civil Proceedings
Troup County Archives	LaGrange	Young's Mill File Young Family File Marriage Records Photo Archives Annual City Directories Unpublished Local Histories Newspaper Archives
Ga. Surveyor General Office	Atlanta	Historic Map Files Land Lottery Records
Ga. Archives and History	Atlanta	Troup County Population Census 1880 Special Schedule of Manufactures Agricultural Statistics Published Local Histories Civil War Records Young Family (vertical file) Tax Lists
Ga. SHPO	Atlanta	Architectural Inventory Previous Historical and Archaeological Reports
Georgia Science Lib.	U. Ga. Athens	Early Troup Co. Soil Survey Historic Maps
Laboratory of Archaeology	U. Ga. Athens	Field Notes and Reports (West Point Survey) Unpublished Historical Data
USCOE	Mobile	Acquisition Files (West Point Lake) Aerial Photographs (West Point Lake)
Soc. for the Preserv. of Old Mills	Atlanta	Mill Inventories
Oral History	LaGrange	Young Family, Descendants Miller/Worker, Descendants

measurements in areas with significant relief has also been recognized. After consultation with staff of the Ben Meadows Company and Allen Precision, it was decided that use of a complete electrical station would be most accurate. A TOPCON GTS instrument provided electrically measured distances, horizontal angle, and vertical angle. The target prism was preset at the height of instrument to facilitate calculation of elevations. The recorded slope distance and vertical angles were utilized in sine and cosine formulae to calculate horizontal distance and rise, respectively.

A project datum point was established on the upper platform of the eastern retaining dam. Its elevation was established through reference to a USGS datum point (668 feet amsl) on the USCOE property boundary northwest of the site. Magnetic north was utilized, and a due west point was marked for day to day consistency. All measurements were taken in feet and tenths of feet.

A total of 288 points were recorded including major cultural features and topographic reference points. The entire mill complex was covered on a 30 m interval. In addition, a kayak was utilized to record the location and bottom depth of 10 points in the stream below the dam, and 21 points in the mill pond. A weighted tape was also utilized to record the depth along the downstream face of the dam. All points were plotted on a field plan during the evening following their recording, and the plan was field verified for accuracy. The mapping was undertaken by Mr. Christopher Espenshade and Mr. Joel White.

Measured Drawings

The measured drawings of standing remains at Young's Mill were produced following accepted Historic American Building Survey (HABS) standards. The Preservation Architect utilized the site plan to organize his drawings and to provide the appropriate elevation data. All field measurements were made in feet and tenths of feet. Field drawings were produced at a scale suited to final production on HABS mylar sheets, and structural and material information was recorded. Table 2 provides a complete inventory of the drawings produced. Logistical difficulties included inclement weather and measurement of the eastern chimney which is surrounded by water.

Final drawings were produced on HABS mylar with permanent ink. The conventions of HABS illustration were closely followed, and all lettering was Leroyed. The field measurements and drawings, as well as the final drawings, were produced by Mr. Lane Greene. Ms. Ruthanne Mitchell completed the lettering of the final drawings, and also produced final versions of the site plan.

Table 2. Young's Mill, Inventory of Maps and Measured Drawings.

1. Title Sheet for Folio of Drawings
 2. Overall Site Map
 3. Detailed Site Plan
 4. Measured Drawings of Store/Office and Chimney
 5. Measured Drawing of Dam - Triangular Chimney
 6. Measured Drawings of East and West Flumes
-

Photographic Documentation

The Young's Mill photography also met HABS standards. Photographs were produced in a 4 X 5 inch negative format, utilizing an Omega C View Camera. A variety of lenses were necessary to produce the desired views. These included:

- Schneider Super-Angulon 65 mm F8
- Schneider Super-Angulon 90 mm F8
- Fujinon SW 150 mm F6.3
- Schneider G-Claron 210 mm F9
- Schneider Symmar 240 mm F5.6

All exposures were produced on a Kodak Plus X Pan Professional 4147 film; this represents a slow, fine grained, high resolution polyester-based film. Emphasis was placed on producing pictures without planar distortion, in proper focus, and properly exposed to document the structure and material of the standing remains. As necessary to judge lighting and shot composition, 4 X 5 polaroid prints were produced in the field.

The photographer recorded planar and oblique views of the standing remains, as well as construction details, machinery, and general site views. A full listing of the views photographed is provided in Table 3; the camera station for all figures in this report are presented in Figure 4. It should be noted that the nature of the site required experimentation and improvisation on the part of the photographer. In addition, moderate to heavy brush clearing was necessary around the office/store and the western cabin chimney.

A fresh set of chemicals was utilized in printing the project film to the manufacturer's specifications. The processing was carefully controlled to assure the archival permanence of the negatives and prints. Original negatives and two glossy contact prints were produced for each shot, and these items were packaged in new, archival quality 8 by 10 inch negative protectors. The protectors were appropriately labeled to indicate the site, the date of the picture, the subject, and the camera direction. Both the field photography and film processing was completed by Mr. Richard Bryant.

Table 3. Young's Mill, Inventory of Photographic Images.

WEST SLUICE
*Detail of interior of sluice and millstone
*Planar view of west sluice from east sluice, including roadside chimney and office
Planar view of upper west sluice gate structure from east
Planar view of west side of west sluice wall
Planar view of north face of rock wall to west of west sluice
Planar view of north face of pylons below west sluice
LOADING DOCK/SAWMILL/SAWPIT
Oblique view of interior, view towards the southeast
*Oblique view of exterior, view towards the northeast
Planar view of east side showing wooden "yoke"
Planar view of south side
Planar view of north side
CHIMNEY
Oblique view of south side of chimney and pylon
*Oblique view of south side of chimney, pylon, and environs
Oblique view of north side of chimney
Oblique view of west side of chimney and associated structures from west sluice
OFFICE
Planar view, rear facade, east side
Planar view, front facade, west side
Planar view, side, north side
Planar view, side, south side
Oblique view, front and north facades
*Oblique view, front and south facades
Detail of doorway arch
Detail of mantle
Detail of brick construction and inside corner
ROADSIDE CHIMNEY
Planar view of rear, south side
Planar view of front, north side
Planar view of east side
Planar view of west side
Detail of west side showing date of construction
*Oblique view of front (north) and west sides
Oblique view of front (north) and east sides
EAST SLUICE
Detail of mill gear apparatus
Detail of Dodge axle/power shaft endplate and associated structures
*Planar view of east sluice from west sluice
Planar view of upper east sluice gate from west
*Oblique view of east sluice gate, power shaft apparatus, and associated structures, view towards the north
Oblique view of north and east walls of east sluice
*Oblique view of east sluice and associated structures, view towards the southeast
DAM
Planar view of dam from north

*Reproduced in text.

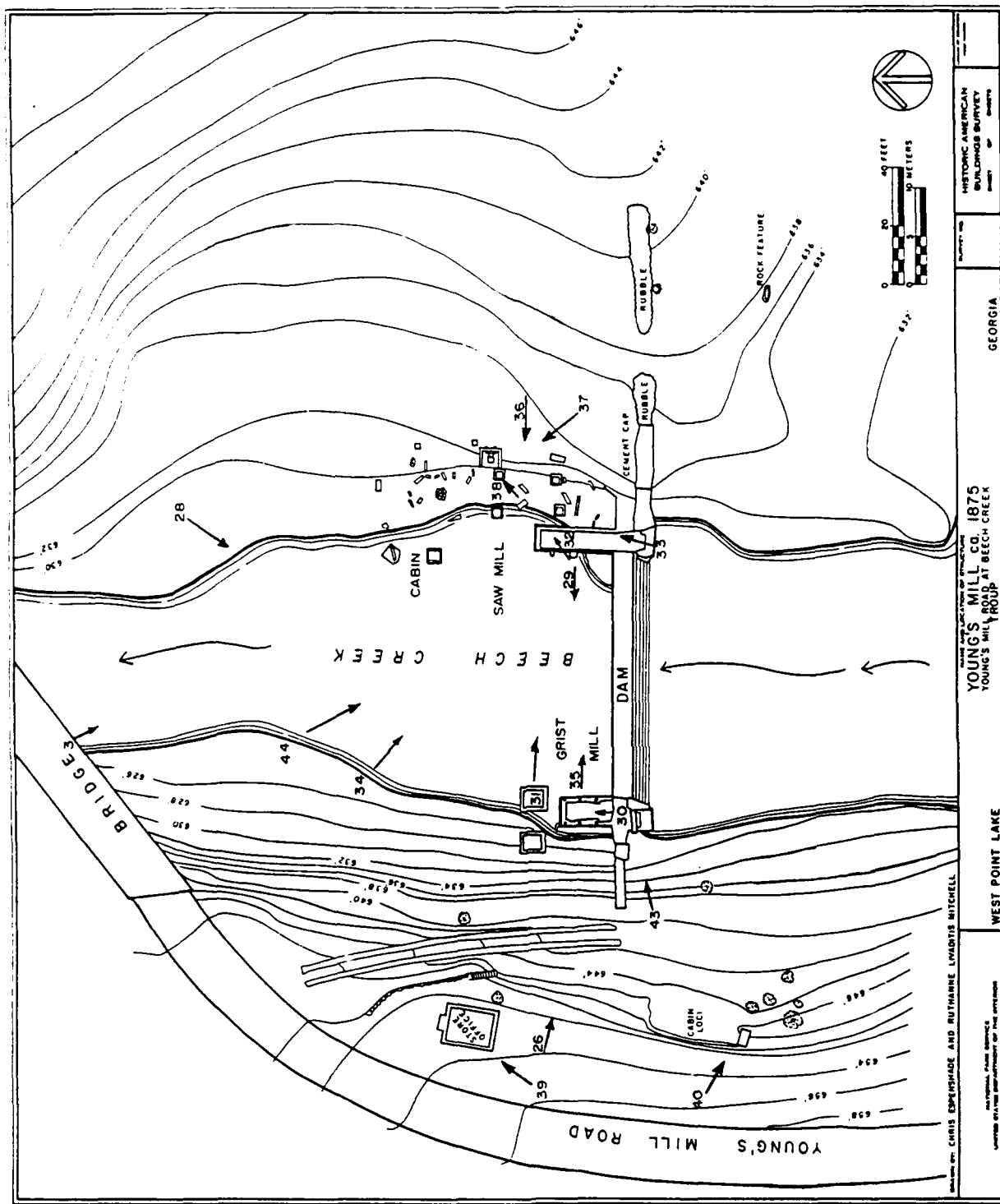


Figure 4. Camera Stations For Figures Presented in Report.

Chapter 3. DEVELOPMENTAL HISTORY OF TROUP COUNTY

INDIAN TRADE AND SETTLEMENT

Spanish expeditions passing through Georgia and Alabama in the sixteenth century encountered aboriginal groups of late Mississippian culture in the Piedmont (Halley and Rudolph 1982:16). The Middle Chattahoochee Valley (including parts of present-day Troup County) may have been visited as early as 1675 by Bishop Calderon, the Franciscan Bishop of Cuba, who wrote of thirteen "Apalachocolan" villages along the Chattahoochee River near the falls (near present-day Columbus, Georgia) (Fretwell 1980:83-84).

At the time of first European contact, the Creek economy was a mix of horticulture and hunting-gathering. Subsistence was based on corn and bean agriculture, supplemented with wild plants and animals, primarily deer. During the 1700s, horses, cattle, and hogs were introduced into Creek life, either through trade or by theft from Spanish outposts and English settlers (Corkran 1967). Hunting continued to be strongly emphasized as a result of the development of a market for deerskins, and became more efficient with the introduction of firearms and metal tools (Ethridge 1982).

Early Spanish efforts to colonize the Chattahoochee country were soon thwarted by the growing trade relationship between French and English traders and the Indians, beginning in the middle 1680s. By the early 1700s, the Creeks had developed trade with the growing Euro-American centers of New Orleans-Mobile (French), St. Augustine (Spanish), and Charleston (English). The Creeks were participating in trade with each colony, constantly playing one against the others. By this time, a number of Creek groups had moved east from the Chattahoochee toward the Ocmulgee, Oconee, and Savannah Rivers to participate more easily in the deerskin trade with Carolina dealers. At the outbreak of the Yamasee War of 1715, these Creeks sided with the Yamasee of South Carolina and coastal Georgia, against the English at Charleston. Although the war went well for the Indians initially, English reinforcements and better weapon and ammunition stocks allowed the Carolinians to counterattack, forcing the Yamasee to retreat to Florida, and impressing the Creeks with the power of the English, as well as the need for general neutrality and friendship with all Euro-Americans (Corkran 1967).

After the Yamasee War, the Creeks returned to their former villages on the Chattahoochee River. Soon thereafter, the English reestablished their trade relationship with the Creeks, remaining dominant throughout the 1700s (Fretwell 1980:118).

Euro-American occupation within the Creek lands may have begun as early as the early 1700s with the establishment of settlements and farmsteads by individual traders. These settlers were permitted (actually encouraged and protected) by the Creeks because they increased the flow of trade goods.

Economic relationships with the English increased as trails through the Georgia Piedmont developed into important trade routes. The major east-west artery was the Oakfuskee Path, which linked Augusta, Georgia with the Creek towns along the Chattahoochee, Coosa, and Tallapoosa Rivers. According to Goff (1955), the main path to Oakfuskee and a number of other important paths and early roads passed through what is now Troup County (Figure 5). Of particular interest to this study is "an Indian Trail leading from today's north Troup County via Harrisonville to LaGrange" (Goff 1955:31-32). This trail is described as a spur of the Grayson Trail, a branch of the McIntosh Road. An examination of modern maps of the area suggests that this path may follow either the present Young's Mill Road or Hammett Road.

The Creeks were bitterly divided between the British and the Americans during the Revolution, and initially gave assistance to both sides. However, during the course of the war, the British were able to maintain a better supply of trade goods through St. Augustine and Pensacola, towns obtained earlier from the Spanish. The Creeks felt their interests were better served by the British, and eventually the pro-British factions became dominant among the Creeks. The Creeks assisted the British and loyalist forces in a number of engagements in Georgia and South Carolina, and at the end of the war were forced to cede lands east of the Ocmulgee River to the Georgians (Corkran 1967:291,296).

In the early 1800s, growing hostilities between American settlers and the remaining British and Spanish-supported Creeks led to open warfare. At the height of the War of 1812, General Andrew Jackson fought and defeated the Creeks at the Battle of Horseshoe Bend. Jackson's actions resulted in the Creek cession of a large part of present day central Alabama to the U.S. government in 1814 (Abernethy 1965:24). Euro-American settlers rushed into the former Creek lands to establish plantations and settlements. Continuing conflicts and increasing population pressures forced the Creeks to cede their remaining territory in Alabama and Georgia by the mid-1820s.

COUNTY ESTABLISHMENT

In 1825, representatives of the Creek nation signed a Treaty at Indian Springs (Butts County), ceding the land

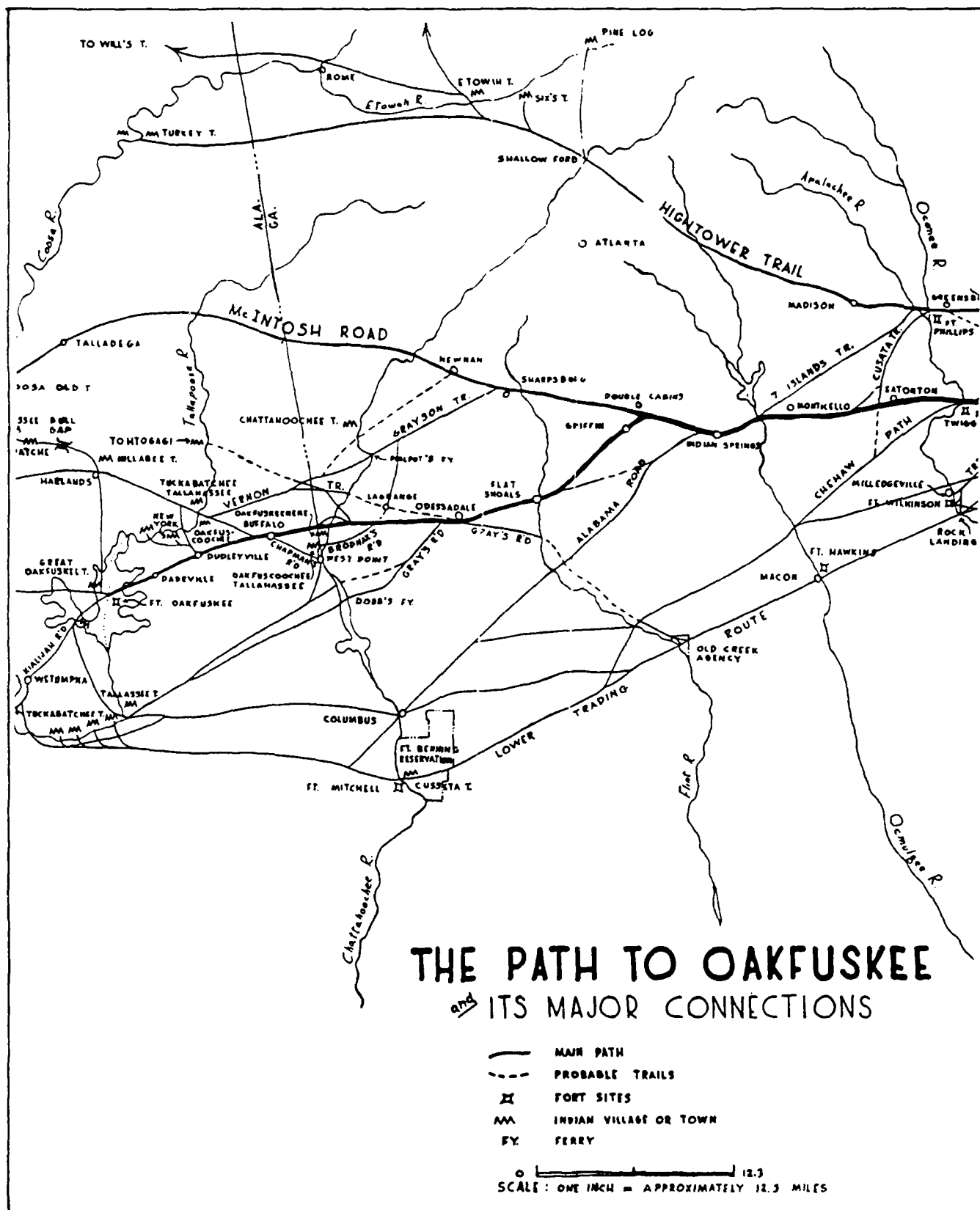


Figure 5. John Goff's Map Reconstructing Historic Trails in Georgia (Goff 1955: Figure 1).

between the Flint River and Chattahoochee River to the State of Georgia. This area was initially divided into five large sections and designated Lee, Muscogee, Troup, Coweta, and Carroll Counties. These counties were then divided into Land Districts. Troup County, named for George M. Troup (governor of Georgia from 1823-1827), originally encompassed twelve districts, stretching from the Flint River to the Chattahoochee River. Later boundary changes (1827 and 1830) added three districts in the west and northwest part of the present county, and deleted all or parts of eleven districts (Smith 1933).

The opening of Creek lands in Georgia during the middle 1820s brought a flood of settlers anxious to obtain land. Smith (1933:47) states that many early Troup County settlers came from the east Georgia counties of Greene and Wilkes. Subsequent settlers were predominantly from Virginia and the Carolinas (Johnson 1987a:11). LaGrange, named for the estate of the Marquis de Lafayette in France, was incorporated and chosen as the county seat in 1828.

Land in the newly formed West Georgia counties was distributed through a land lottery, held in Milledgeville between March and May, 1827. According to Acts passed by the Georgia General Assembly in 1825 and 1826, all male citizens above the age of eighteen, widows, and orphans were entitled to one draw for a land lot (202.5 acres). Additional draws were awarded to soldiers of the Indian wars, the Revolution, and the War of 1812. Commissioners in each county received and reviewed the names of citizens wishing to participate in the lottery. After the lottery, fortunate drawers were issued grants to land lots and, if the validity of the grant was not challenged, the land lot was "taken up" (Houston 1976).

A rudimentary transportation system and favorable environmental conditions brought many early settlers to Troup County after its formation. Early paths and trails developed into a road network linking settlements in the county and allowing contact with outside markets. LaGrange appears to have been at the center of this network. While initially considered to be very rugged, a gradual clearing of the virgin forests revealed rich soils, considered superior to rocky soils found to the north of the county and to sandy soils to the south. These conditions were particularly apparent on the Chattahoochee River bottoms and along the its six major tributaries which passed through Troup County (Johnson 1987a:7).

These favorable conditions probably affected initial settlement patterning and the rapid development of the plantation system in Troup County. By the 1830s, numerous large tracts had been purchased by plantation operators from the east. According to George G. Smith (1968:388)

there was no part of the county sterile and it was rapidly settled, not by poor people, who are generally the first in a new county, but by well-to-do planters from eastern Georgia, who opened large cotton plantations at their first coming.

Clifford Smith (1933:49-50) describes these settlers as "people of education and property, [bringing] with them into this wilderness, tools, cattle, slaves and household furnishings."

ANTEBELLUM DEVELOPMENT

By 1830, the population of Troup County had reached 6,000. During the antebellum period, forests were extensively harvested, and cotton became the primary field crop. Members of the planter class lived in large, well-built houses in LaGrange, while overseers tended the cotton plantations. The cotton boom years of the 1830s and 1840s led to increased prosperity for plantation owners in the region, and furthered trends toward larger tract ownership. Unfortunately, planters continued to use the same cotton planting methods which had resulted in the rapid decline of cotton production in the older counties of eastern and central Georgia (Trimble 1974).

During the early 1800s, industries of the county were focused on water power. Smith (1933:123) describes Troup County's early industries as

crude and simple in operation ... dependent for power on muscle, mules, and water power ... The mills of the early days were smithies, carpenter shops, and gristmills, and later sawmills and tanneries.

According to Smith (1933:126), the old grist mills were a source of pleasure and convenience, as well as manufacturing. While mentioning no grist or flour mills by name or location, Smith (1933:189) states that James and David Culberson were the only operators of sawmills during the early part of Troup County's development.

By the mid nineteenth century, the cultivation of corn and wheat had increased significantly. Johnson (1987a:28) reports:

Dozens of mills dotted the countryside. Every section possessed its own grist and flour mills. Trade developed and communities sprang up around many [of these mills]. The profusion of streams and Nineteenth Century technology made it possible

for the numerous mills and their communities to develop.

By 1850, White (1849:550) records the presence of fourteen grist mills, ten flour mills, and eleven saw mills in Troup County. In comparison, neighboring Heard County had seventeen grist mills, three flour mills, and thirteen saw mills (White 1849:321).

Between 1830 and 1860, cotton monoculture came to dominate the economy of Troup County. This was most apparent in increases seen in the number of Blacks employed in all phases of the plantation system. The average number of slaves held by each slave owner in the county increased from ten in 1830 to twenty-four by 1860 (Johnson 1987a:48-49). By 1850, the slave population of Troup County had exceeded the number of Whites. The population of LaGrange in 1845 included about 500 Whites and over 1,000 black slaves (Smith 1933:52). By 1860, 74 percent of LaGrange was Black (Johnson 1987a:49).

Much of the cotton produced in the county prior to 1850 was cleaned and baled on the plantations, then sent to manufacturing centers in Columbus or elsewhere. Troup County's first cotton factory (and only the second such facility in Georgia) was established on Flat Shoals Creek, southeast of LaGrange, in 1848. Troup Factory had originally been the site of a water-powered grist mill established by Maxey Brooks in 1829, and sold to Robertson, Leslie and Company in 1845 (Smith 1933:115).

The present road system was established before the Civil War. Stagecoach traffic developed on overland roads, which often followed established Indian trails and which connected Troup County with other population centers in Georgia and Alabama. Bonner (1847) illustrates a number of roads intersecting at LaGrange (Figure 6). Notable to the present project is the road shown which passes northeast out of LaGrange and crosses Beach [Beech] and Yellowjacket Creeks before reaching Corinth (Heard County). This road generally follows the route of the present Young's Mill Road.

Prior to the introduction of railroads to the region, river transportation was the area's primary link with outside markets. By the mid-1820s, a number of ferries crossed the Chattahoochee and its tributaries. As early as 1831, river barges and flat boats were transporting produce from Troup County upstream on the Chattahoochee to DeKalb County, Georgia. Boats were regularly running from West Point upriver (Smith 1933:108). Planters from the LaGrange area traded with merchants in West Point, Columbus, and Montgomery. The river was apparently navigable within four miles of the falls at Columbus in the winter months (Martin

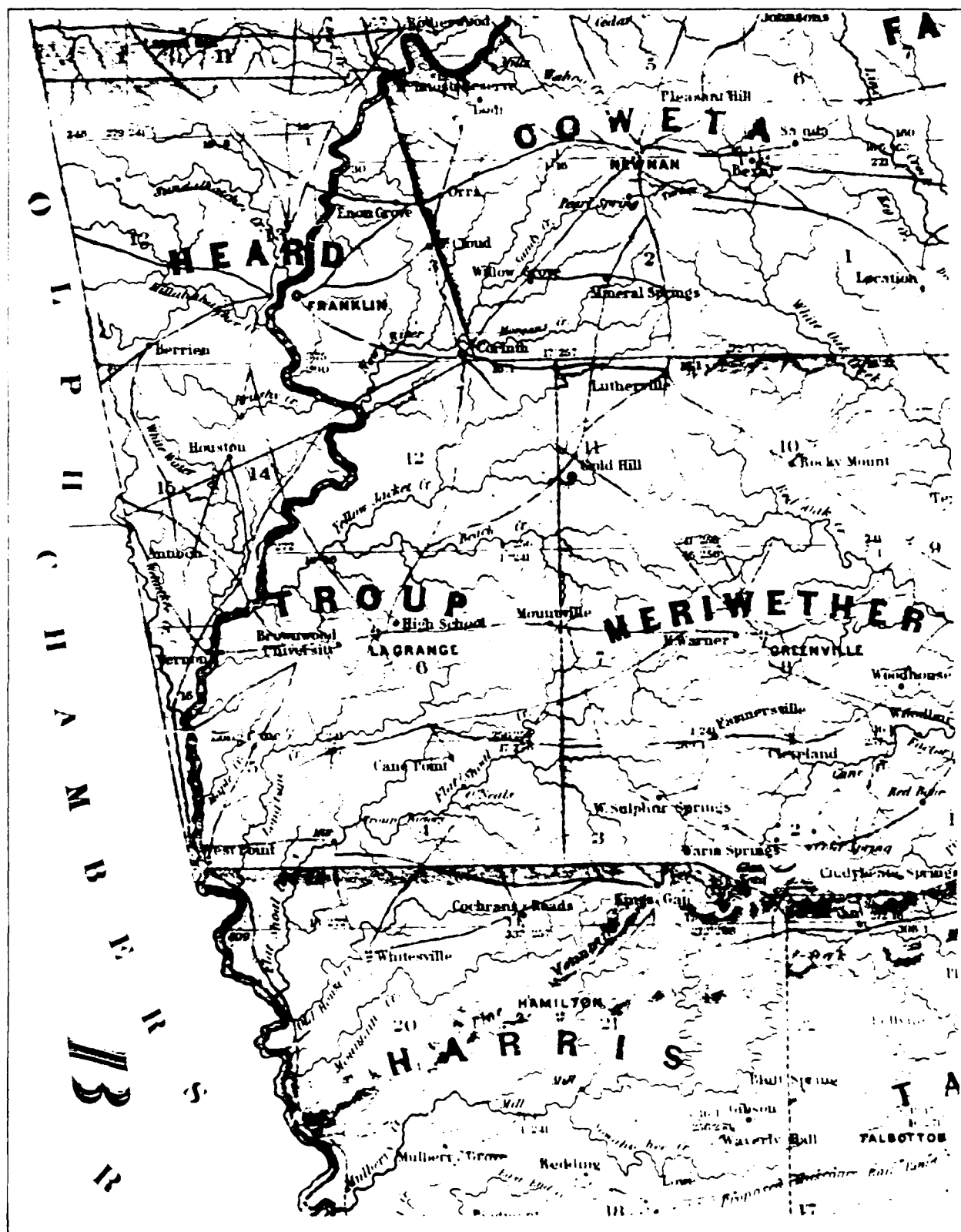


Figure 6. William G. Bonner's Map of the State of Georgia, 1847.

1874:11). River navigation for commerce declined when the railroads were completed into the area in the 1840s and 1850s.

By the early 1850s, Troup County could boast of rail service to Montgomery and Atlanta. The Montgomery and West Point Railroad (incorporated in Georgia in 1837) was completed to West Point in 1851, and the Atlanta and West Point Railroad (chartered as the Atlanta and LaGrange Railroad in 1847) reached Troup County in 1854 (Smith 1933:109-110). With the establishment of rail transportation, Troup County cotton belt plantations were tied directly into the Southeastern transportation network.

While residents of Troup County were strongly affected economically by events of the Civil War, the area was not the scene of any major battles. Near the end of the war, a minor skirmish occurred at Fort Tyler near West Point. Union forces under the command of Col. LaGrange assaulted Fort Tyler, a bastioned earthwork surrounded by a ditch. On 16 April 1865, General Tyler surrendered the Confederate garrison. Union forces destroyed two bridges across the river, 19 locomotive engines, and 245 rail cars at West Point (Martin 1874:184). Also on 16 April, Federal troops under General Wilson captured the city of Columbus.

POSTBELLUM ADAPTATION

At the beginning of the Civil War, New England markets for cotton were lost and cotton production declined (Lindsey 1971). Planters converted cotton fields to cultivate table crops. However, the West Point, Georgia area became a storehouse for thousands of bales of cotton grown in the Chattahoochee Valley. After the war, only the largest landowners remained solvent through the sale of large land tracts. In the postbellum period, small landowners sold out and entered the labor market in competition with free Blacks, bringing about the landlord-tenant relationship referred to as "sharecropping." In addition to tenancy, a pattern of small tract ownership became reestablished due to the division of estate portions by impoverished large landowners.

By the middle 1860s, local planters and businessmen had begun again to develop the water power potential of the Chattahoochee Valley by constructing a number of cotton mills along the river and its tributaries. Cotton production was reestablished as the economic base of the county, resulting in the construction of numerous textile mills in the 1880s through the early 1900s (Smith 1933:115-121).

In addition to cotton processing mills, other agriculturally-related industries continued to develop in the late 1800s. Coleman et al. (1977:234) have calculated that the number of flour and grist mills in the South increased 300 percent after the war, with sawmills exhibiting a 20 percent increase. Reconstruction and updating of a number of larger operations in the lower Piedmont was funded by groups of local planters and Northern investors; Alabama and Georgia Manufacturing Company, in West Point, Georgia is an example of a milling complex reestablished after the War by a group of local and outside investors (Chattahoochee Valley Historical Society 1957).

While post-war industrial development was most apparent in the larger cities of lower Piedmont Georgia, many smaller, family-run mills continued to operate along upstream creeks and rivers, filling the everyday needs of a large portion of the rural population. The 1880 Special Schedules of Manufactures for Troup County records eleven grist mills, six flour mills, seven mills processing both wheat and corn, and five saw mills (U.S. Bureau of the Census 1880b).

Power sources for flour, grist, and saw mills in Troup County changed very little during the late nineteenth century. According to information recorded in the 1880 Special Schedules of Manufactures, a variety of old and new technology was being utilized to power grain and saw mills. The predominant motive power utilized in these mills continued to be hydromechanical, and mill locations were chosen to take advantage of swift-water shoal areas on the river and creeks. Engine types included three tub wheels, two flutter wheels, two breast wheels, one paddle wheel, twenty-three turbines, and one steam engine (U.S. Bureau of the Census 1880b).

The dominant food crops produced in the county continued to be corn and wheat. Grain yields for Troup County, Georgia from 1850 to 1920 are presented in Table 4 (U.S. Department of Commerce, Bureau of the Census, Seventh-Fourteenth Censuses). Yields for neighboring Heard County, Georgia, and Chambers and Randolph counties, Alabama are also presented for comparison. After a substantial decrease in production during the war years, grain yields increased markedly after 1870. Despite an economic depression in the middle 1870s (Johnson 1987a:92), Troup County corn yields appear to have remained high throughout the remainder of the nineteenth century, and into the early twentieth century. Wheat production reached its peak in the early 1880s, and declined rapidly into the early twentieth century.

Troup County's farm products changed somewhat in the early 1900s. Cattle breeding and poultry grew in

TABLE 4. CORN AND WHEAT PRODUCTION BY COUNTY, 1850-1920.

PRODUCT/ CENSUS	COUNTY (STATE)			
	Troup (GA)	Heard (GA)	Chambers (AL)	Randolph (AL)

CORN (bushels)				
1850	687,205	265,242	876,038	319,183
1860	520,091	347,296	793,466	560,133
1870	162,946	151,435	205,099	264,488
1880	341,963	195,161	458,286	322,466
1890	338,424	221,644	504,273	331,213
1900	335,380	298,090	504,001	508,900
1910	278,884	235,103	466,312	516,770
1920	454,094	307,926	986,860	621,381

WHEAT (bushels)				
1850	17,644	12,047	21,281	18,212
1860	48,315	57,980	78,861	63,080
1870	26,645	22,271	39,532	48,587
1880	55,572	33,439	75,945	58,379
1890	2,655	5,010	6,417	11,038
1900	15,230	22,330	25,370	35,644
1910	4,847	5,337	2,068	10,058
1920	6,922	3,120	5,125	8,284

importance. Prior to a general decline in the Piedmont lumber industry in 1904, timber resources such as pine, oak, maple, hickory, sweet gum, and poplar were available for manufacturing purposes (Range 1954:208). A boom in cotton production and manufacture after 1900 -- by 1900, there were three cotton mills manufacturing cloth in Troup County -- and before World War I, was followed by the total collapse of the market in the 1920s. The collapse was due to a post war recession, the boll weevil, and the Great Depression. The production of corn, wheat, oats, potatoes, and other consumables was also stimulated by the World War I economy, only to drop off dramatically with the onset of the Depression (Holmes 1977:261-263).

Chapter 4. MILL TECHNOLOGY OF THE GEORGIA PIEDMONT

In the history of the Georgia Piedmont, water powered mills inevitably were established shortly after the agricultural development of an area. Unprocessed corn and grain were bulky and heavy items to transport, as were processed flour and meal. A farming community naturally desired to have a milling facility close at hand. As early settlers spread across the Georgia Piedmont, they encountered marked variability in the natural environment, relative to the establishment of water powered mills. In addition, the period of greatest expansion in the Georgia Piedmont, approximately 1800 through 1865, was a span in which major advances occurred in mill technology. In this chapter, the evolution of mill technology through time and space for the Georgia Piedmont is addressed to provide a context for understanding the technology of Young's Mill.

MILL TERMINOLOGY

Mills can be categorized by many schemes, but product and motive machinery are most diagnostic. Three gross categories of product were prevalent in Georgia: grist, flour, and lumber. The distinction between grist mills (producing corn meal) and flour mills (producing wheat flour) was not consistently utilized by census takers and other record keepers of the nineteenth century. In addition, many mills processed both flour and meal. For example, the majority of the Troup County mills listed in the 1880 Special Schedule of Manufactures produced both flour and grist, with corn meal the dominant product.

Jeane (1974) argues that only commercial (or custom) flour grinding operations should be considered flour mills, with all others labeled grist mills. His distinction will be followed here, with the notation that the major product of Troup County grist mills was consistently corn meal, although some flour was produced.

Sawmills processed lumber, and were often established in conjunction with grist mills. Sawmills were often small convenience operations, drawing on the facilities already in place for a grist mill. An examination of the 1880 Special Schedule of Manufactures for Troup County indicates that four of the five sawmills recorded were operated by proprietors of grist mills.

MOTIVE POWER: VERTICAL WHEELS

The means by which water power was harnessed for industrial use is termed motive power. All water power

systems in historic Georgia utilized a wheel of some form. There are two broad categories of motive power, which reflect the orientation of the wheel: vertical and horizontal. Vertical wheels (horizontal shaft) fit the classic image of the mill wheel, and were in use as early as AD 25 in the Old World (Moritz 1958:131). Types of vertical wheels can be determined by the point of the wheel on which the water impacts and the direction the wheel turns relative to the water flow (Figure 7).

Overshot Wheels

Overshot wheels are impacted on the uppermost, downstream segment of the wheel. They revolved against the current at their base, and only produced eight to 14 revolutions per minute (RPM). Overshot wheels garnered their energy from primarily the weight and secondarily the flow of the water. These wheels had a test efficiency of 80 percent, but actual use efficiency was generally 50 to 70 percent (Hunter 1979). Until the twentieth century, overshot wheels were made of wood. The development of the steel wheel in the early 1900s resulted in an increase in test efficiency to over 90 percent (Fitz Water Wheel Company 1928).

Because overshot wheels spanned the entire height of a fall, this type required relatively high falls (Figure 8). Hunter (1979) reports that 10 to 36 ft falls were recommended in the early nineteenth century for overshot wheels. To generate the necessary fall, extensive mill races were often constructed to increase the fall (or rise, in geometric terms) by increasing the horizontal distance (or run). Mill races were designed to have a much gentler gradient than the natural slope, such that the diverted water flow would realize an increased fall or kinetic energy potential.

The limitations of overshot wheels were the low RPM rate, the high fall required, the necessity to carefully balance and support the heavy wheel, and the efficiency robbing turbulence of the wheel against the tail race current. A key advantage of this type of wheel is that its operation drew from the top of the stream, and, therefore, was not hindered by stream siltation.

Breast Wheel

Also known as the centershot wheel, the breast wheel was impacted by water on the upstream side, above the horizontal centerline of the wheel. The breast wheel, unlike the overshot wheel, rotated in the same direction as the tailrace current. The breast wheel was generally a slow

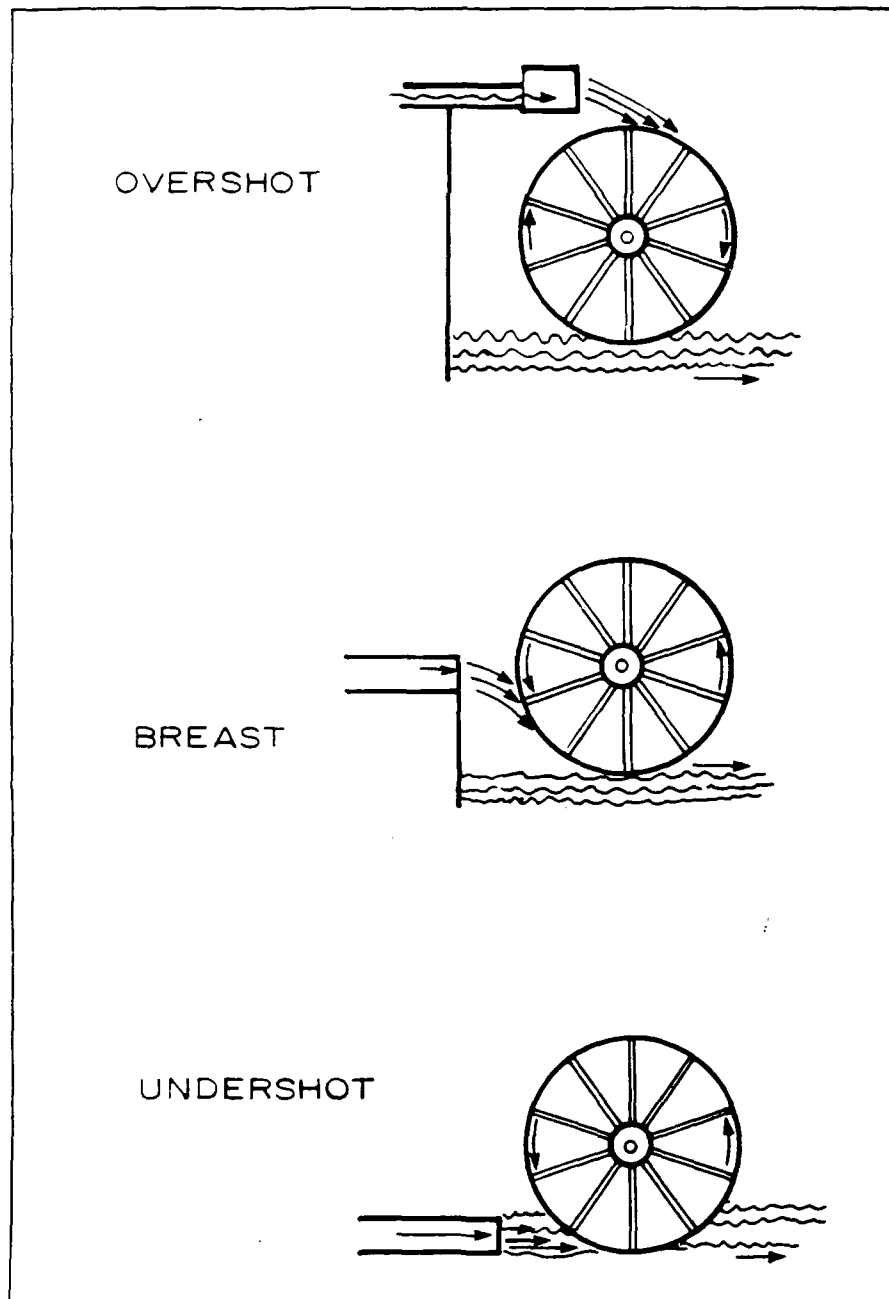
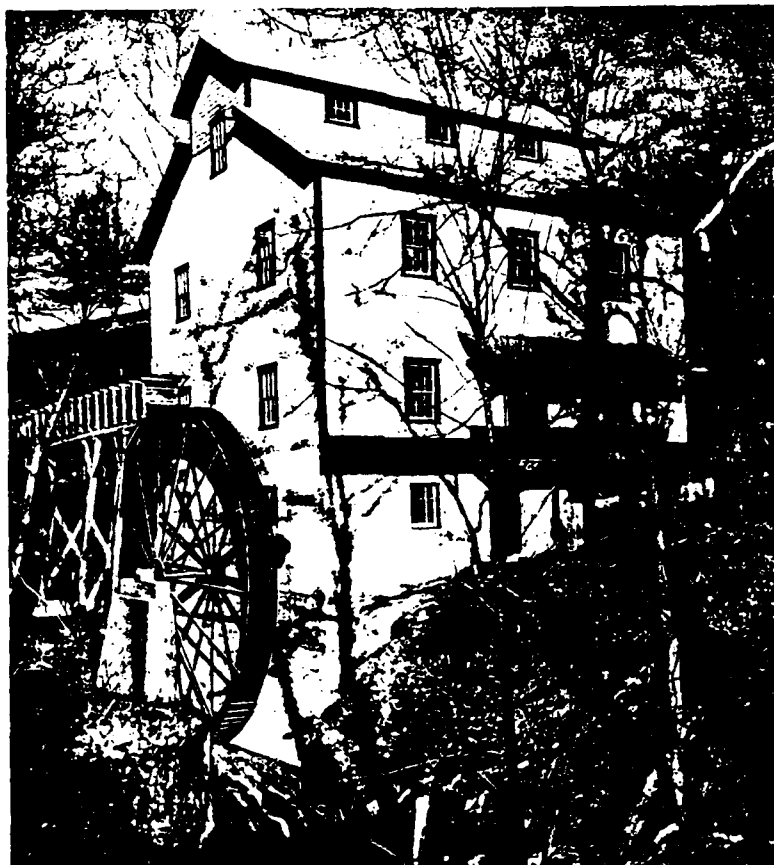


Figure 7. Simplified Schematics of Vertical Wheel Types.



30 ft. dia. by 3½ ft. face Fitz Steel Overshoot Water Wheel driving mill of Capt. D. W. Barger, at Shawsville, Va. This wheel is fed by a wooden forebay and is equipped with a segment gear.

Fitz Water Wheels have brought prosperity to water power mills throughout the country for they afford steady power and constant service from streams that would be worthless with any other type of wheel.

There are more than 750 mills and factories in the State of Virginia alone that are being driven today by Fitz Water Wheels.

Figure 8. Typical Overshot Wheel. Source: Fitz Water Wheel Co., 1928

spinning device (14-19 RPM), suited to falls of ten to 20 ft. A use efficiency of 40 to 60 percent was common for this type of wheel (Hunter 1979). Two examples of breast wheels are illustrated in Figures 9 and 10.

The breast wheel did not require a fall as high as the overshot style. Alternatively, a larger breast wheel could be placed in the same seat as a smaller overshot wheel, and the increased capacity often more than compensated for the inherent efficiency differences (Evans 1850; see Figure 11). Changes in water level in the tail race did not significantly affect the efficiency of the breast wheel.

Undershot Wheel and Flutter Wheel

The undershot wheel was impacted on the upstream, bottom section of the wheel, and derived its energy from stream flow rather than water weight. These wheels turned in the direction of the stream flow. Undershot wheels were generally smaller than other vertical wheels, and were suited to a fall of one to 25 ft. Undershot wheels ran at 24 to 25 RPM, excepting the small diameter flutter wheels which generated higher rates. Because undershot wheels did not fully utilize the weight of the water and also fought the turbulence of the race, they operated at only 15 to 30 percent efficiency (Hunter 1979).

The advantage of the undershot wheel was that it did not require large falls, and operated relatively well in low flow situations (Newman 1984:5). In addition, the high RPM rate of the flutter variety of this wheel (relative to other vertical wheels) was well suited to the needs of sawmills. The generally smaller size of the undershot wheel meant reduced structural and engineering demands. However, the low efficiency of the wheel was a clear drawback, and Evans (1832:280) argues that undershot wheels "may suit where the head is not much higher than the float boards, but I am fully convinced it will not suit high heads."

MOTIVE POWER: HORIZONTAL WHEELS

Two basic types of horizontal wheels, tub and turbine, have many traits in common. The simplicity of design and construction of the tub wheel distinguishes it from the highly engineered turbine. Hunter (1979:83) discusses the differences between the tub and turbine wheels:

Turbine and tub wheel alike were horizontal wheels with vertical shafts: of small diameter, both were quick running in contrast to the slow motion of bucket wheels of the breast and overshot types. Yet in hydraulic terms there was little in common



Figure 9. Typical Breast Wheel, Swann's (Freeman's) Mill
Gwinnett County, Georgia.

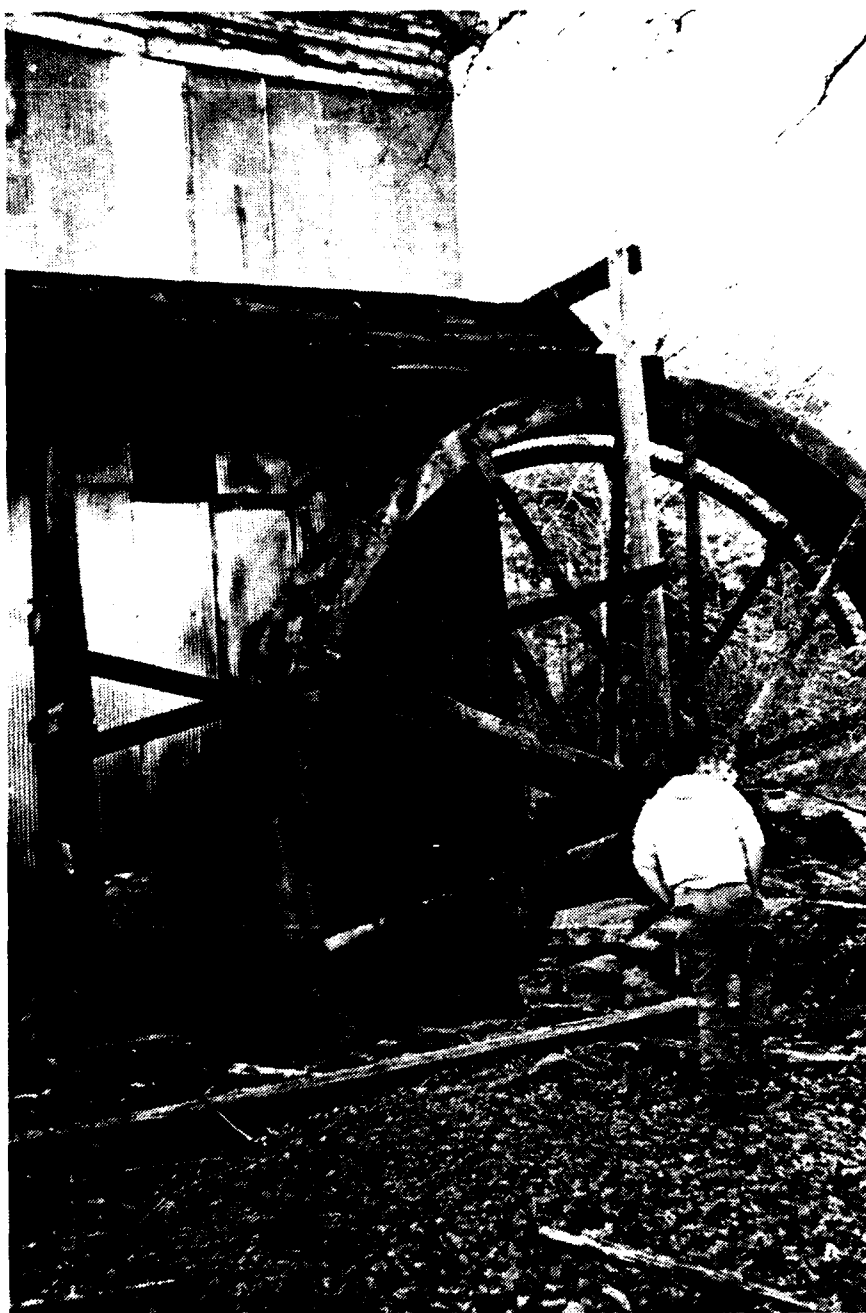


Figure 10. Very High Breast Wheel (Pitch Back Wheel). The Wheel Turned Counter-clockwise. Sewell Mill, Coweta County, Georgia.

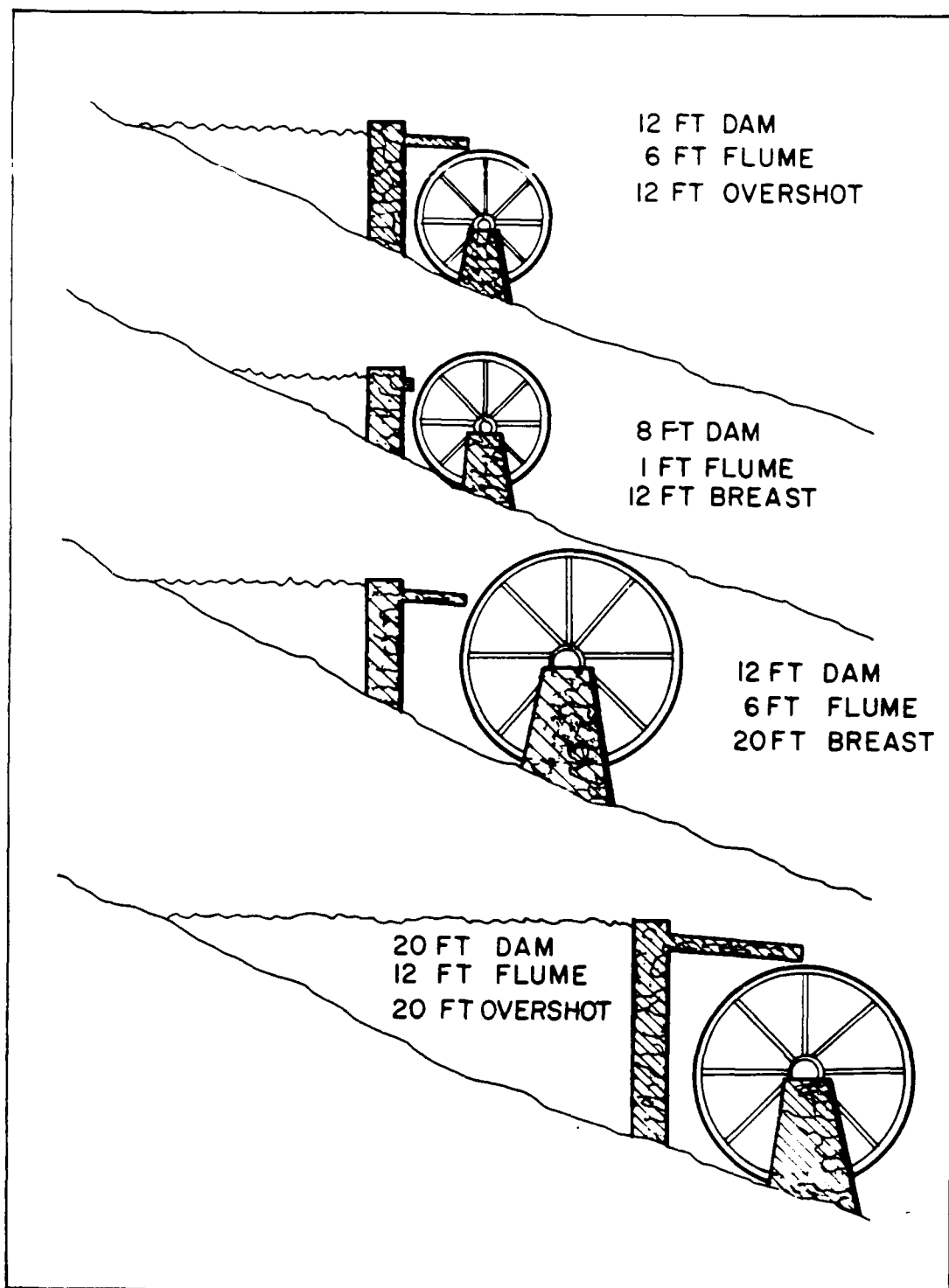


Figure 11. Comparison of Various Options for Breast and Overshot Wheels at Hypothetical Mill Seat.

between the strike-and-splash-off action of the tub wheel and the pressure-reaction character of the turbine. Turbines operated to best advantage submerged; tub wheels could operate only above the tailwater. In efficiency the two wheels were at opposite poles.

Horizontal wheels do not rely on the weight of water (like vertical wheels), but instead react to the directed flow of the water. Horizontal wheels are significantly smaller and lighter than vertical wheels.

It should be noted that the distinction between tub and turbine wheels has not consistently been made in the archaeological literature (e.g., Orser et al. 1987; Newman 1984), and that terms such as "reaction turbine" have been applied to highly refined tub wheels. As illustrated in Figures 12 and 14, there was a developmental continuum from simple tub wheel to snail case tub wheel, to snail (or scroll) case turbine, to open flume (center discharge) turbine.

Tub Wheel

The tub wheel consists of a central, vertical shaft from which four to eight vertical paddles or spokes radiate (Figure 12). A concentrated flow of water is directed to one half of the wheel, resulting in a pinwheel reaction. The water exits through the bottom center of the wheel. Efficiency estimates of 10 to 15 percent apply to this type of wheel, which runs at 70 to 122 RPMs (Hunter 1979). The tub mill was easily produced, and was often utilized in small grist mill operations (Figure 13), in which the stones were mounted directly to the vertical shaft (Wigginton 1973).

While tub wheels could utilize any fall from eight to 20 ft, they were generally applied in low flow settings. The low efficiency of the motive power was a limitation, but its simplicity made this type of wheel popular in many areas. A snail or scroll case often was placed around later tub wheels, increasing the force of the reaction. Such a case can be viewed as ancestral to the scroll cased turbines.

Turbine Wheel

The modern turbine wheel was first developed in France in 1827, although the hydraulic theories were developed much earlier (Drisko 1934; Wood 1896). The turbine utilizes the forced flow of water to rotate the blades, and is much less dependent on the weight of water than are vertical wheels.

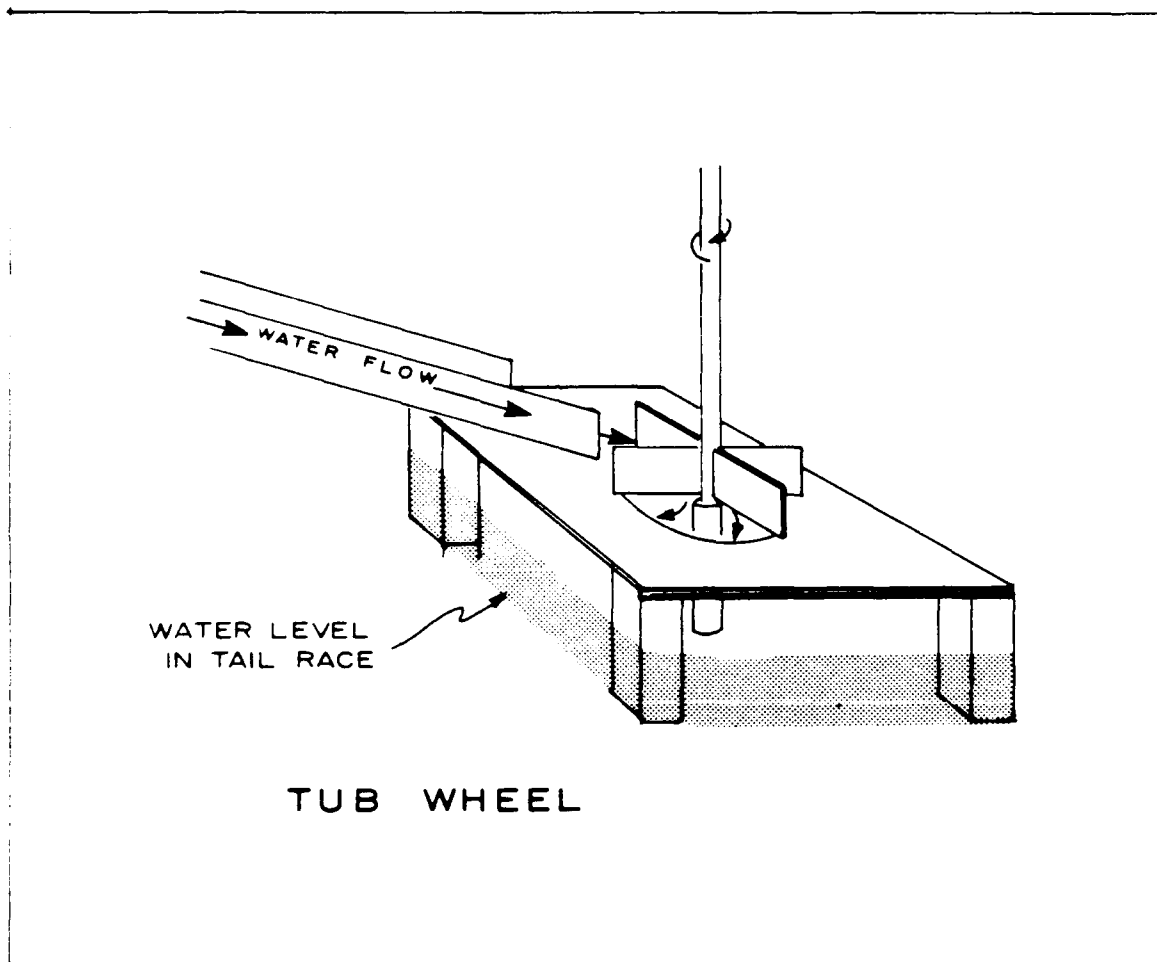


Figure 12. Simplified Schematic of Tub Wheel.



Figure 13. Displaced Wood and Metal Tub Wheel, Lick Log Mill,
Macon County, NC.

Two basic categories of turbines were utilized in the United States: the scroll case turbine and the open flume turbine.

Water enters the scroll (also snail or globe) case turbine through an opening in the case at the outside origin of the scroll. Water pressure is increased as the diameter of the scroll decreases, and the water flows out the bottom center of the turbine, acting on the runners as it exits. Although similar to scroll cased tub wheels, the runners of these turbines are designed to react to the downward flow of water, rather than react simply to impact (Figure 14). A scroll case turbine, produced by Davis Foundry of Rome, Georgia, is still in operation at Nora Mills near Helen, Georgia.

The second type of turbine, the open flume (or inward flow) turbine, was utilized at Young's Mill. The invention of the inward flow turbine is credited to James B. Francis in 1840 (Jeane 1974:30). The open flume turbine was seated over the only exit from an otherwise sealed flume. The water flowed into the turbine through adjustable side gates around the entire circumference of the turbine, and reacted on the runners as it exited through the center (Leffel 1883). The open flume turbine was lighter, less expensive, and equally as efficient as the scroll case turbines.

While early turbines had one set of runners (or buckets), later turbines were refined with two sets of runners to optimize efficiency under a broader range of flows. The mixed flow turbines, as they were known, were pioneered by the Leffel Company of Springfield, Ohio (Leffel 1883; Figure 15). Leffel turbines were utilized at Young's Mill.

MILL TECHNOLOGY: DAMS, RACES, AND FLUMES

The technology utilized to deliver a sufficient flow of water to a sufficiently high head varied with topography in the Georgia Piedmont. The two polar options are: (1) build a high dam and place your mill at the dam; or (2) build a diversion dam with a long head race to deliver the head at the mill well downstream from the dam. A head race functions by diverting a portion of the stream flow, and reducing the natural drop through construction of a carefully engineered channel. The head race flow elevation, as it reapproached the normal channel, will then be higher than the normal stream level, and the difference is considered the head or fall. The head required varied with the type and size of wheel selected, which in turn was mandated by the anticipated power demands.

Several factors were considered in designing a mill facility at a given seat. If severe flooding was feared,

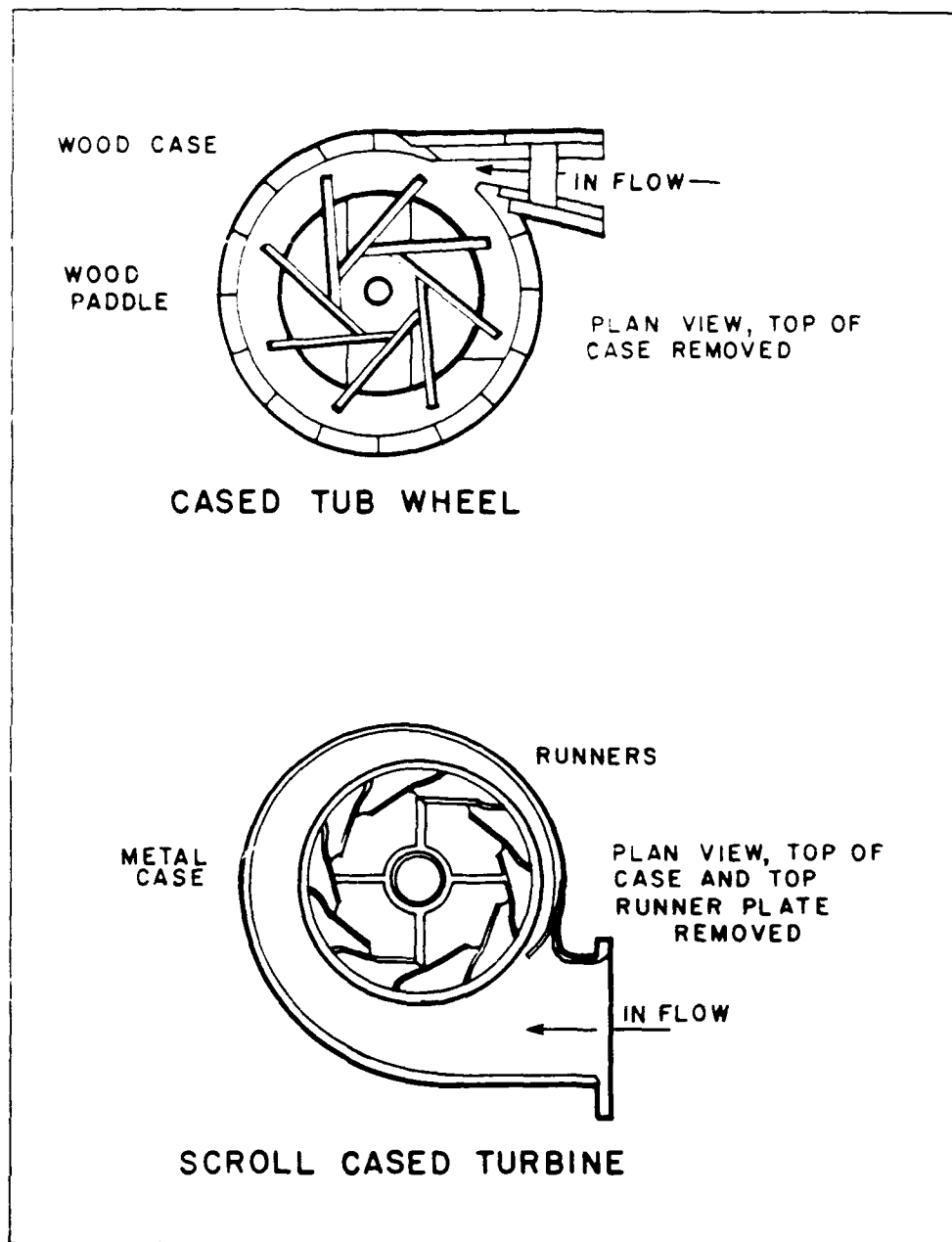


Figure 14. Comparison of Cased Tub Wheel (after Council 1978:Figure 4) and Scroll Cased Turbine (after Newnan 1984:Figure 35).

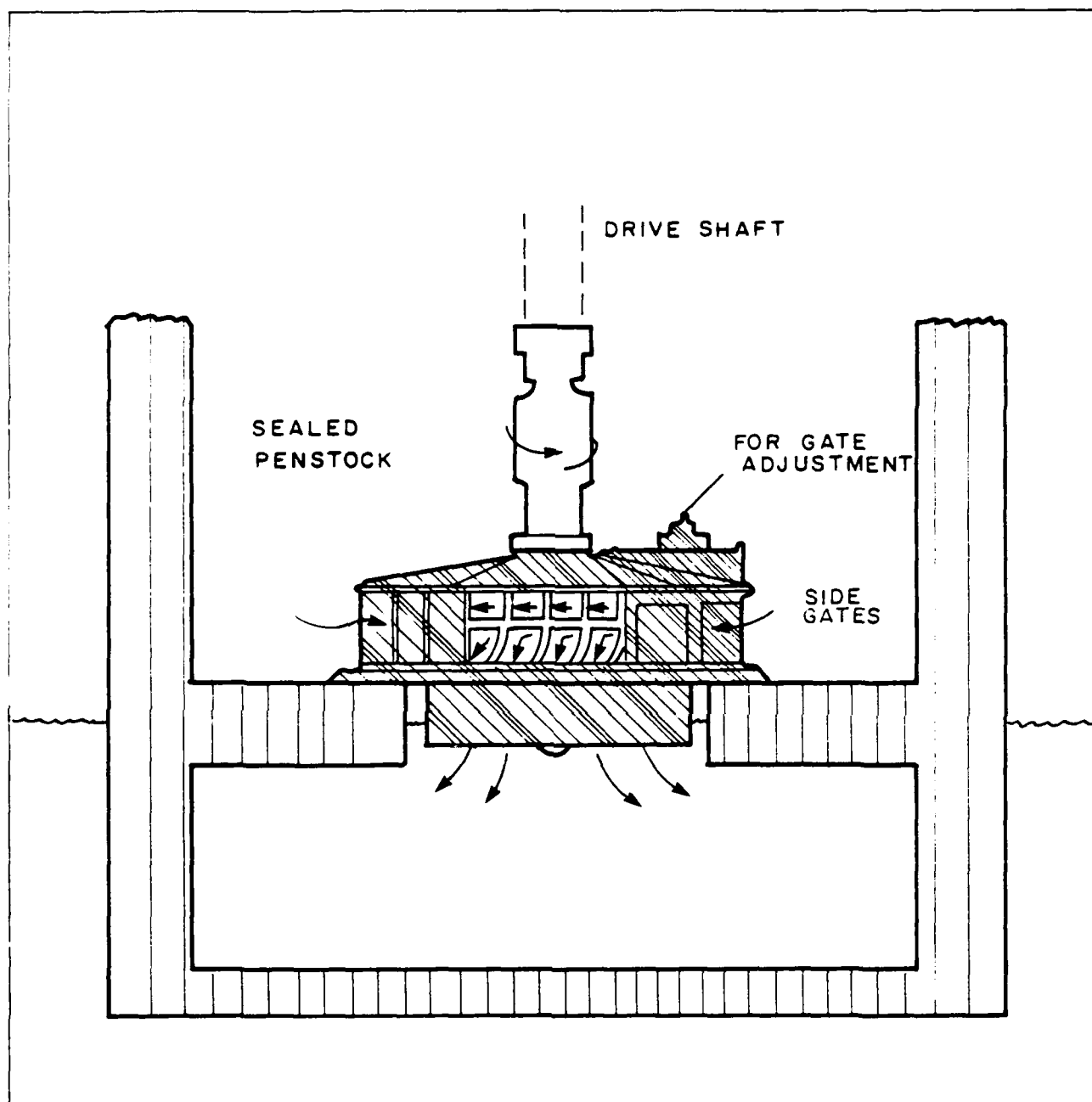


Figure 15. Simplified Schematic of Leffel Turbine, view from end of Tailrace. Central Portion intake Gates cutaway to show Interior Runner Blades. Shaded Portions are stationary.

then it was better to place the mill on a race, far removed from the main current and the risky dam. On the other hand, if the stream dropped sufficiently, the construction of the mill at the dam would preclude the engineering and construction of a head race.

Dams were constructed of a variety of materials including stone rubble, coursed stone, timber, clay, concrete, and combinations of any of these. Larger dams were generally constructed of coursed stone, while low dams and diversion dams were readily produced with rubble, timber, or clay. Dams needed to hold back the normal impoundment, and also be capable of surviving the pressure and currents of floods.

TEMPORAL/SPATIAL DISTRIBUTION OF MOTIVE MACHINERY IN GEORGIA

Hunter (1979:51) reports that "the technology of water mills in colonial America was wholly European in origin and character." Colonial mills were most commonly tub or undershot wheels. The earliest water mills in Georgia apparently were those built at the settlement of New Ebenezer in the late 1730s (Society for the Preservation of Old Mills [SPOOM] 1981). A painting of the New Ebenezer community (Seutter 1747) illustrates three large undershot wheels (Figure 16).

By 1750, the overshot wheel was widely applied to flour and grist milling, while the breast wheel did not begin to gain popularity until the early 1800s. Tub wheels were widely utilized in steep areas for small grist mill operations from the eighteenth through twentieth centuries, although Hunter (1979:83) remarks that "by 1850 the tub wheel was the element of traditional technology most completely identified with the past." By the 1770s, tub, overshot, breast, and undershot wheels were all in use in Georgia. As Jeane (1974:26) reports:

Numerous documents reveal milling to have been an important and widespread trade during colonial times. What is lacking is detailed information about the mechanical operations of the mills. We do know from these records that all major types of water-powered machinery [excepting turbines] were being used in America by the close of the colonial period and that Georgia was no exception.

Concerning the relative frequency of the various types of motive power, Jeane (1974:29) further reports:

Overshot wheels were the most numerous large mill type in Europe and America until the introduction of the turbine in the early nineteenth century.

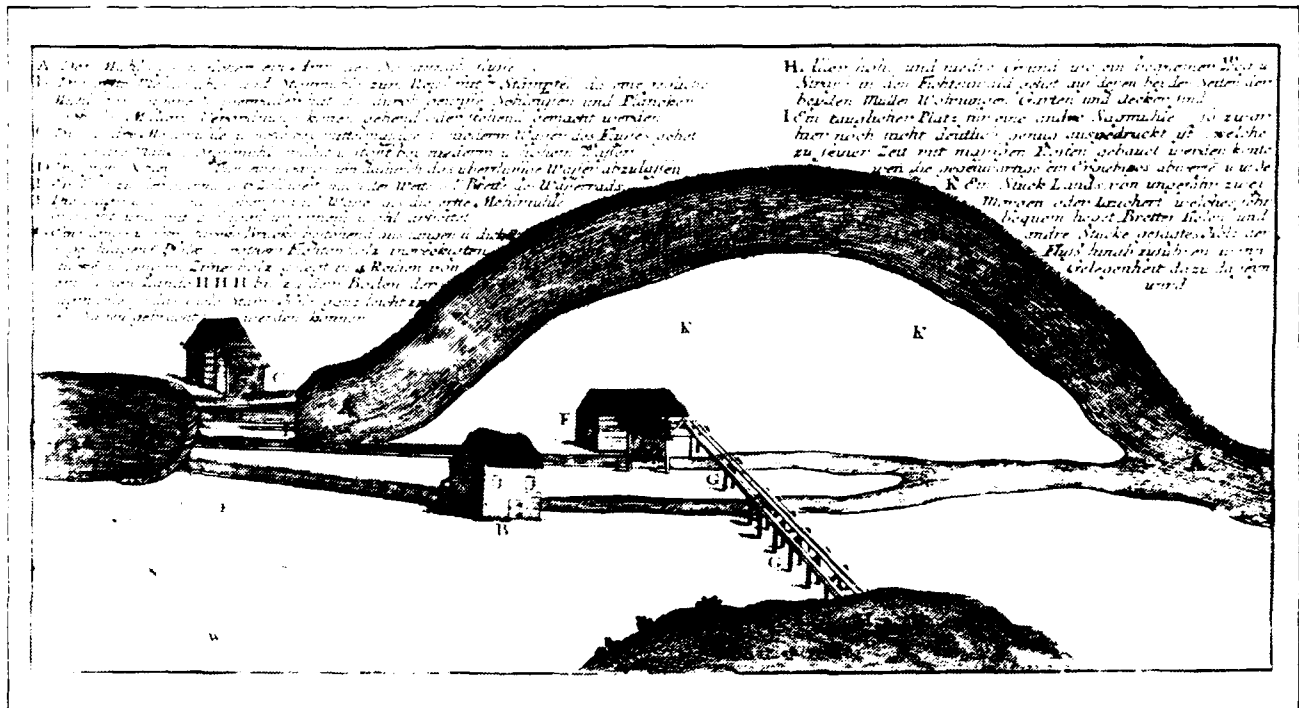


Figure 16. Three Undershot Mills at New Ebenezer, Georgia, 1747. From Seutter's Plan of Ebenezer, in the Hargrett Rare Book and Manuscript Library, University of Georgia.

Evans (1832) does not mention turbines in his review of motive power, yet by 1880 turbines had come to dominate the Georgia technology. The rapid acceptance of the turbine is reflected in the history of the James Leffel and Co., which was established in 1862 and had sold over 11,000 turbines by 1883 (Leffel and Co. 1883). Likewise, Montgomery Manufacturing Company (1861) literature indicates that it had placed Reuben Rich's Centre-Vent wheels in grist and saw mills throughout Georgia and Alabama by 1861. As Table 5 indicates, the turbine was the prevalent motive power in Georgia Piedmont counties by 1880.

In general, the early twentieth century saw a revival of overshot technology in Georgia, partly due to the refinement of the steel overshot wheel. The steel wheel was much more efficient than its wooden predecessor (Fitz Waterwheel Company 1923). Research at Strickland's Mill in Gwinnett County demonstrated that a steel overshot wheel was installed in the early twentieth century at the site of an earlier 20 ft diameter wooden wheel (Gresham 1987).

The decline of waterpowered milling in the Southeast corresponded with increased availability and affordability of alternate powers, such as steam, electricity, and gasoline. Trimble (1968) noted that steam technology in comparison with water power required less capital outlay, and could be more conveniently located relative to work force and customer base. Nonetheless, water powered mills continued in some areas well into the twentieth century because the capital outlays had already been made and the facilities were in place (Hunter 1978).

DOCUMENTED EXAMPLES

The following archaeologically or historically documented mills of the Georgia Piedmont demonstrate the wide range of motive power utilized, and the varying rate of technological change. It is emphasized that a given time period cannot be securely linked with a given motive power scheme, excepting the lack of turbines before the 1830s.

An early 1790s mill site in present day Greene County, Georgia was probably typical of grist mills of this period. The mill included a six ft tall earthen dam and a 75 to 80 ft long mill race. An overshot wheel is suggested by the wheel pit dimensions (Ledbetter and Wynn 1987). In this portion of Georgia, a mill race arrangement was often utilized to compensate for moderate natural drop.

Another Greene County example is the Curtwright (cotton) Factory site on the Oconee River. The motive machinery of the Curtwright Factory, 1845 through the 1870s, was initially wooden turbines, possibly refined tub wheels.

TABLE 5. MOTIVE MACHINERY, 1880, TROUP AND BARTOW COUNTIES.

	TROUP	BARTOW
<u>VERTICAL WHEELS</u>	2	9
OVERSHOT	0	5
CENTER/BREAST	2	2
BUCKET	0	2
<u>HORIZONTAL WHEELS</u>	21	11
TUB	3	1
TURBINE	18	10
<u>OTHER</u>	0	2
Steam	0	1
Bernum (?)	0	1

NOTE: The difference in relative frequency of vertical to horizontal wheels is probably due to the greater stream gradients of Bartow County, better suited to vertical wheels.

Two scroll case turbines were subsequently added. The hydraulic system included a small, stone diversion dam and a 350 ft mill race (Bartovics and Council 1978).

At Ross' (also know as Merrell's) Gristmill on the Oconee River, technological change is documented for the 1840s through 1920 (Council 1978). While there are limited data suggesting that an undershot wheel was the earliest motive power at the mill, it is likely that multiple tub wheels and possibly a turbine were utilized in the merchant mill first mentioned in 1846. The archaeological excavations located evidence of five wooden tub wheels situated very close to a 7 or 8 ft dam. From the 1890s through 1920, oral history indicates that the motive power was an overshot wheel driven from a 40 to 50 ft head race off of a new, upstream dam. Council (1978:33) suggests that the silting of the tub wheels may have led to their abandonment in favor of the overshot wheel.

Also on the Oconee River, Park's Mill operated from before 1850 through the 1910s. The hydraulic system utilized a timber crib with boulder rubble dam providing 8 ft fall. Three late (1890s or later) snail case turbines were found during excavation, and the original motive power is unknown (Bartovics 1978).

In the Russell Reservoir area of South Carolina and Georgia, archaeological investigations at seven mill sites revealed a conservative technology. Newman (1984:98) reports:

The Russell Reservoir area did not participate in the rapid change in water power technology in the second half of the nineteenth century which prevailed throughout much of North America. Instead, the use of traditional forms of water wheels such as center discharge wheels and early designs of manufactured turbines persisted into the twentieth century. Mixed flow turbines, widely employed in the eastern United States prior to 1880, are not firmly documented in the reservoir area until 1895 with the construction of Pearle Mill.

It must be recalled that motive power was only changed when damage or marked inefficiency mandated replacement. The motive power documented for the Russell area demonstrates the longevity of particular, individual wheels. The only transition evidenced was at Mattox Mill where two wooden, center discharge turbines (refined tub wheels?) were replaced prior to 1880 by iron scroll case turbines (Newman 1984). It should be noted that Orser et al. (1987) argued that the mill technology at Millwood Plantation within the Russell Reservoir was state of the art, and that the mill

had installed at least one reaction turbine and one metal scroll case turbine by 1860.

The mill seat at McCosh's Mill, Randolph County, Alabama, apparently underwent a rather late transformation. The early vertical wheel was washed away in a flood in 1886. In 1888, a 26.5 inch Leffel turbine was installed in the rebuilt mill. A second turbine was installed in 1904 (Jeane 1979).

The pattern of mill development in northwestern Georgia was similar. Jeane (1974) defined four phases of mill evolution for the period of 1830 through 1930. He found evidence that mills evolved from small grist mills with tub wheels to grist and saw mills with first overshot, then turbine motive power. The third phase entailed the addition of flour milling to the complex, with overshot, breast, undershot, or turbine wheels. The final phase of the evolution was termed the integrated mill by Jeane, and included saw, grist, and flour mill elements as well as associated rural support services (e.g., blacksmith shop). In northwestern Georgia, numerous mills had become integrated by 1880, although the time necessary for the evolution varied greatly.

CHAPTER 5. YOUNG'S MILL ECONOMIC HISTORY

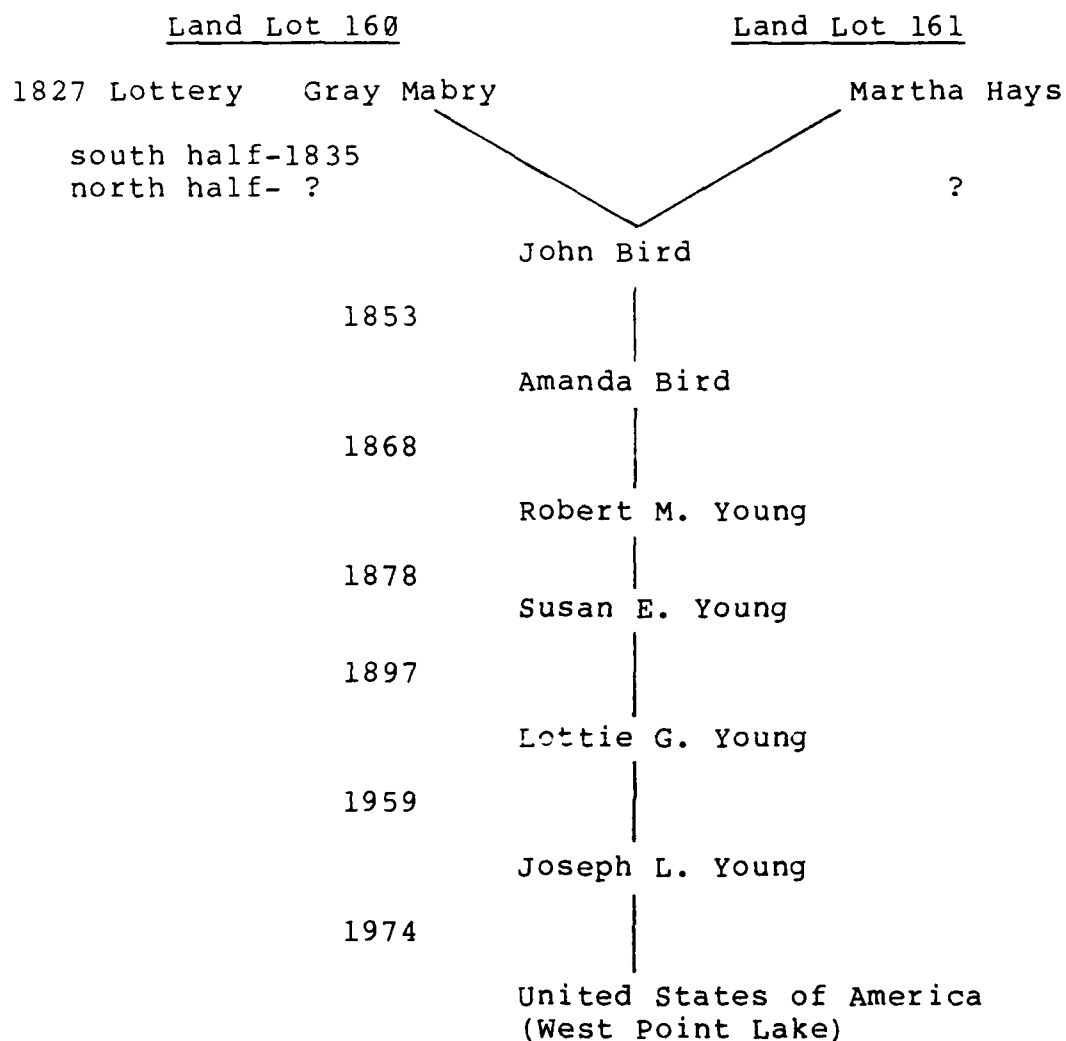
PROPERTY HISTORY

The remains of Young's Mill are located on Beech Creek, in Land Lots 160 and 161 of the Twelfth District, Troup County. Figure 17 shows the chain of title for the property. Land Lot 160 was originally drawn by Gray Mabry, of Morgan County, Georgia, in the 1827 Land Lottery (Smith 1933:23). Records in the Georgia Surveyor General Department indicate that Mabry was granted the 202 acre land lot on May 21, 1827. This grant was challenged by Joshua Mabry (relationship unknown) of Greene County, and the grant was found to be fraudulent on the grounds that Gray Mabry had falsified claims of his military service. In 1831, the Troup County Superior Court granted the south half of Land Lot 160 (106 acres) to Joshua Mabry, reserving the north half (96 acres) for the State of Georgia (Troup County Superior Court Minute Book 12:160). Joshua Mabry's presence in the 1830 Greene County, Ga. Census (Jackson 1981a), and absence in the 1840 Troup County Census (Jackson 1977) suggest that he never settled this grant. In 1835, Mabry sold the south half of Land Lot 160 to John Bird (Troup County Deed Book [hereafter TCDB] D:331). According to later land records, the State of Georgia appears to have sold the north half of the land lot to John Bird after 1835, but before 1853. However, no record of this transaction was found.

Land Lot 161 was drawn by Martha Hays, a widow from Twiggs County (Smith 1933:23). Although records in the Georgia Surveyor General Department indicate that Hays was granted this lot, no Troup County property transactions have been located regarding the disposition of Land Lot 161 by her. The earliest reference to this lot is found in the sale of Land Lots 160, 161, and 162 to Robert M. Young by public sale from the estate of John Bird, in 1868 (TCDB O:37).

John Bird, probably the earliest settler on Land Lots 160 and 161, was born in North Carolina in 1785 and moved to Greene County, Georgia before 1820 (Johnson 1987b:157; Jackson 1976). Bird probably settled in Troup County in the early 1830s. While Bird is listed in the 1830 Greene County Census (Jackson 1981a), A reference to "John Bird's Mill" in an 1834 Troup County Inferior Court records suggests his presence in Troup County by the early 1830s (F. Clark Johnson, personal communication 1988). Bird's purchase of 106 acres in Land Lot 160 in 1835 -- his first recorded property purchase in Troup County -- lists him as a resident of Troup County (TCDB D:331).

Figure 17. YOUNG'S MILL PROPERTY CHAIN OF TITLE.



Compiled from Troup County, Georgia, Superior Court Deed Records, and Troup County Will Books.

John Bird died in 1853, leaving his land holdings, slaves and other possessions to his second wife, Amanda Stewart Bird, and his three surviving children (Troup County Will Book [hereafter TCWB] B:73). The Birds probably remained on the Beech Creek property until 1868 when the land was sold at public sale to Robert M. Young (TCDB O:37).

Robert Madison Young was born September 2, 1822 in Rockingham County, North Carolina (Johnson 1987b:541). Federal census records for the Eastern District of Rockingham County record his presence there until 1850 (Jackson 1981b). Young had removed to Georgia by the mid-1850s, as evidenced by his marriage to Mary Eaton Yancey in 1856 in Troup County (Bruce 1982:368), and initial purchases of land in Troup County in 1857 and 1858. These land purchases, consisting of more than 1,000 acres on Yellowjacket and Flat Creeks (TCDB L:674; L:675) probably indicate Young's initial date and place of settlement in Troup County.

Robert and Mary Young had two children (Jessie, born 1857; and Joseph Walton, born 1858) before Mary died in 1859 (Johnson 1987b:541). Robert married his second wife, Susan Elizabeth Farley Pitts (widow of Robert Z. Pitts of Harris County), in 1861 (Barfield 1961:126). This second marriage produced four children: Robert M. Jr., Lalarette, William L., and Rosa Clay (TCWB:B423).

As noted above, Robert M. Young purchased approximately 600 acres, lying along Beech Creek in Land Lots 160, 161, and 162, at a public sale in 1868 (TCDB O:37). This land, the former "Bird Place," was sold by order of the Troup County Court of Ordinary in accordance with Amanda Bird's life estate in the property, granted to her by her husband, John Bird (TCWB B:73-74). Young's placement of his Yellowjacket/Flat Creek property as collateral for a loan in 1869 (TCDB N:524) may indicate that Young and his family had relocated to the Beech Creek property by this date. A 1931 obituary for William L. Young, son of Robert M. and Susan Young, notes that W.L. Young was born (ca. 1869) in a log cabin built by his father "in Troup County at what is now Young's Mill" (LaGrange Daily News August 28, 1931).

Robert M. Young died in 1878. At the time of his death, the family was living in LaGrange, as stated in the 1879 sale of their house by Young's executor (TCDB T:59). It appears that R.M. Young's family moved back to the mill property at this time. In his will, Young directed his executor to sell (at his discretion)

all of my Real Estate and personal property except what I shall reserve in this item ... I hereby reserve from sale my "Mill Place" and "Mill" in this County [Troup] containing about one thousand

acres of land. I also reserve from sale ten of my best mules, two of my best wagons and all the plantation tools, cotton seed etc. that my Executor may deem sufficient for the successful farming of said "Mill Place" (TCWB B:422-423).

Young left the "Mill Place and "Mill" to his wife, Susan Elizabeth, and his four youngest children: Robert M. Jr., Lalarette, William L., and Rosa Clay (TCWB B:423). According to the Georgia State Gazetteer and Business Directory for 1881-1882 (Standard Directory Company 1881-1882), Mrs. S.E. Young owned 1,000 acres valued at between \$5,000 and \$10,000. In 1897, Young's heirs sold the "Young's Mill place" (then including Land Lots 159, 160, 161, 162, and part of 158) to the wife of Robert M. Young, Jr., Lottie Guinn Young (TCDB Y:537).

Local records and informants indicate that the Young family was not residing on the mill property in the early part of the twentieth century. As noted above, after R.M. Young Sr.'s death, some members of the family probably moved back to the mill tract. When Susan E. Young died in 1900 (Johnson 1987b:541), it appears that the Young family house was rented to a hired mill operator (Wiley Williams: Appendix A). In 1910, the Young property on Beech Creek consisted of all of Land Lots 159, 160, 161, 162 and portions of Land Lots 130 and 158 (Figure 18). According to a sampling of LaGrange city directories, Robert M. Young Jr. and his family resided in LaGrange, from before 1910 (Young and Company 1909-10:395) until after 1929 (LaGrange City Directory Company). They moved back to the mill property in 1929 after razing the old family home and building a new brick house (Joseph L. Young: Appendix A).

During the early 1920s, R.M. Young Jr. began building a recreation area southwest of Young's Mill, to be used by LaGrange and Troup County residents as a summer resort. This construction continued until his death in 1939, and included a swimming pool, a number of frame cabins, and a large stone "dance hall" (Wiley Williams: Appendix A; Joseph L. Young: Appendix A).

At Lottie Young's death in 1959, and by direction of her will (TCWB E:81), the "Young's Mill Place" was sold to her son, Joseph Lauderdale Young (TCDB 138:698). Joe L. Young retained ownership of the property until 1974, when the land was taken by condemnation as part of the U.S. Army Corps of Engineers, West Point Dam and Reservoir Project (United States District Court, Civil Action No. 1102, Final Decree 1974).

REGIONAL SETTLEMENT

Targeted Market

As noted by Johnson (1987b:28), grist and flour mills were an integral part of the economic development of Troup County. By the time of earliest settlement in Troup County (mid-1820s) the technology of water powered mills had been widely applied in Piedmont Georgia (see Chapter 4). Thomson (1953:339) states:

As communities grew and prospered and as the white men moved westward across Georgia, the number of mills grew accordingly. Because the roads were poor, the mills served relatively local groups of customers (those who lived within a ten mile radius or so).

From interviews with customers of small, local mills in northwest Georgia, Jeane (1974:101) determined that

Most farmers used a mill relatively close to home. An ideal situation was one in which the farmer might rise at dawn, ride, drive, or walk to the mill, have his corn ground, and return near dark. Average distances traveled were between four and seven miles each way.

Smith (1933:123), a Troup County historian, echoes Thomson in stating that "the patronage of a given industry was limited to the range of travel of one day for the round trip." Utilizing these assertions, it can be assumed that the market area for a mill on Beech Creek at the location of Young's Mill may have covered a ten mile radius, and could potentially have reached as far north as Corinth (Heard County); south to beyond LaGrange; east to Mountville and Mt. Pleasant; and west to the Chattahoochee River. While no distinct market area can be documented for Young's Mill, the following discussion will provide background data related to the probable area served by this mill throughout its existence.

According to Troup County historians, the early growth of Troup County proceeded relatively rapidly (Smith 1933; Johnson 1987a). In 1830, four years after its formation, the population of Troup County had reached nearly 6,000. LaGrange, with 1,000 residents, was named as the county seat in 1828, and was the only settlement of any size in the central county area (Sherwood 1937:183). LaGrange was linked with other county seats by a network of both old and new roads (Johnson 1987a:7). Between 1830 and 1850, Troup County's population increased to 16,879 (U.S. Department of Commerce, 1883b:56). Tanner's (1839) map of Georgia shows LaGrange as the County Town [seat], and Long Cane, Shiloh,

Vernon, and West Point as Common Towns in Troup County. Bonner (1847) pictures these same towns, in addition to illustrating the primary roadways which had developed across the county (see Figure 6, Chapter 3).

The Bonner map (1847) provides information which may be directly relevant to the discussion of a previous mill operating near the location of Young's Mill (see Use History below). The road shown connecting LaGrange and Corinth appears to follow the route of the present Young's Mill Road, Hammett Road, or a combination of the two. If Johnson's (personal communication 1988) suggestion for the location of John Bird's mill on Beech Creek (ca. 1834 to 1853) can be considered correct, this road would have made Bird's Mill relatively accessible to a large portion of central and northeastern Troup County.

During the 1860s, Troup County's population growth slowed somewhat, reaching 17,632 in 1870 (U.S. Department of Commerce, 1883b:56). Callahan's map (1863) of the county area differs little from Bonner (1847) in terms of the presence of towns and the general road network. Additional local settlements pictured by Callahan include Asbury (present-day Harrisonville) and Hogansville (on the Atlanta and West Point Railroad). LaGrange continued as the principal population center of the county. West Point, which had experienced a dramatic period of growth in the early 1850s with the completion of the Atlanta and West Point Railroad, was rapidly developing as a center of agricultural commerce, particularly in the area of cotton processing and shipment (Smith 1933:56).

During the late nineteenth century, Troup County was recovering from the effects of the Civil War. In 1880, the population had reached 20,565 (U.S. Department of Commerce, 1883b:56). The Butts Map (1882; Figure 19) illustrates a more complex network of roads continuing to serve LaGrange as the county seat and principal population center. According to state business directories (Norwood 1879-80:558; Standard Directory Company 1881-82:337), the population of LaGrange had reached 2,500, and included a wide range of service and commercial establishments. It is interesting to note that only one grist mill -- operated by James G. Young (no relation to the R.M. Young family) -- is listed in LaGrange in the 1876-77 (Wheeler et al. 1876-77:216) and 1879-80 business directories. James G. Young's mill does not appear in the 1881-82 directory.

Documentary sources indicate that Young's Mill began operation in the middle 1870s. The post-Civil War depression had severely affected cotton prices (Johnson 1987a:88), but both corn and wheat yields were up markedly (See Table 4, Chapter 3). According to several sources, there were a number of mills operating in central Troup

County during the late 1870s through the middle 1880s. State business directories indicate that, in addition to James G. Young's mill in LaGrange, mills operated in Asbury (now Harrisonville) and Hogansville (Wheeler et al. 1876-77; Norwood 1879-80; Standard Directory Company 1881-82; Anonymous 1886). According to the Butts (1882) map, Young's Mill was one of only a few mills located in close proximity to LaGrange. Others included an unnamed mill on Shoal Creek, southeast of Young's Mill; Tufts Mill, on Mud Creek, southeast of LaGrange; and Bradford's Mill, on Mud Creek, south of LaGrange (Figure 19). The presence of these mills in the area may have had a limiting affect on the overall market area of Young's Mill.

Economic recovery and expansion, and the increased demand for water ground meal may have expanded the market area of Young's Mill somewhat during the early twentieth century. As noted previously, the production of corn in Troup and neighboring counties increased substantially between 1910 and 1920, primarily to meet wartime demand. Joseph L. Young indicates that this time period was the most productive for Young's Mill (Joseph L. Young: Appendix A). Wiley Williams, operator of the mill during the late 1920s, noted that area farmers preferred meal ground by a water powered mill, and "at that time a lot of mills was around, but that [Young's Mill] was the only water ground mill." Williams stated that corn was brought to the mill "thirty and forty bushels at a time" and meal was sold as far away as Harrisonville (Wiley Williams: Appendix A).

The 1902 USGS Wedowee quad sheet (Figure 20) and the 1912 Troup County Soil Map (Figure 21) illustrate settlement patterning in the Young's Mill vicinity during the early twentieth century. These maps illustrate a dispersed settlement pattern, common to agriculturally oriented areas. The two major centers of settlement in the county were LaGrange and West Point. While other smaller settlements appear at road intersections, along the railroad, and at river and creek crossings, a majority of the houses and farms illustrated are shown scattered along primary and secondary roads. These roads made Young's Mill accessible to both farmers and consumers.

Competing Mills

As described above, grist, flour, and saw mills have existed in Troup County since the time of earliest settlement. A number of the earliest references for mills in Troup County are found in the minutes of the Troup County Inferior Court. For example, the Bird-Culberson Mill (on Shoal or Beech Creek) and the Culberson-Wilkinson Mills (Beech Creek) are noted as landmarks in early road

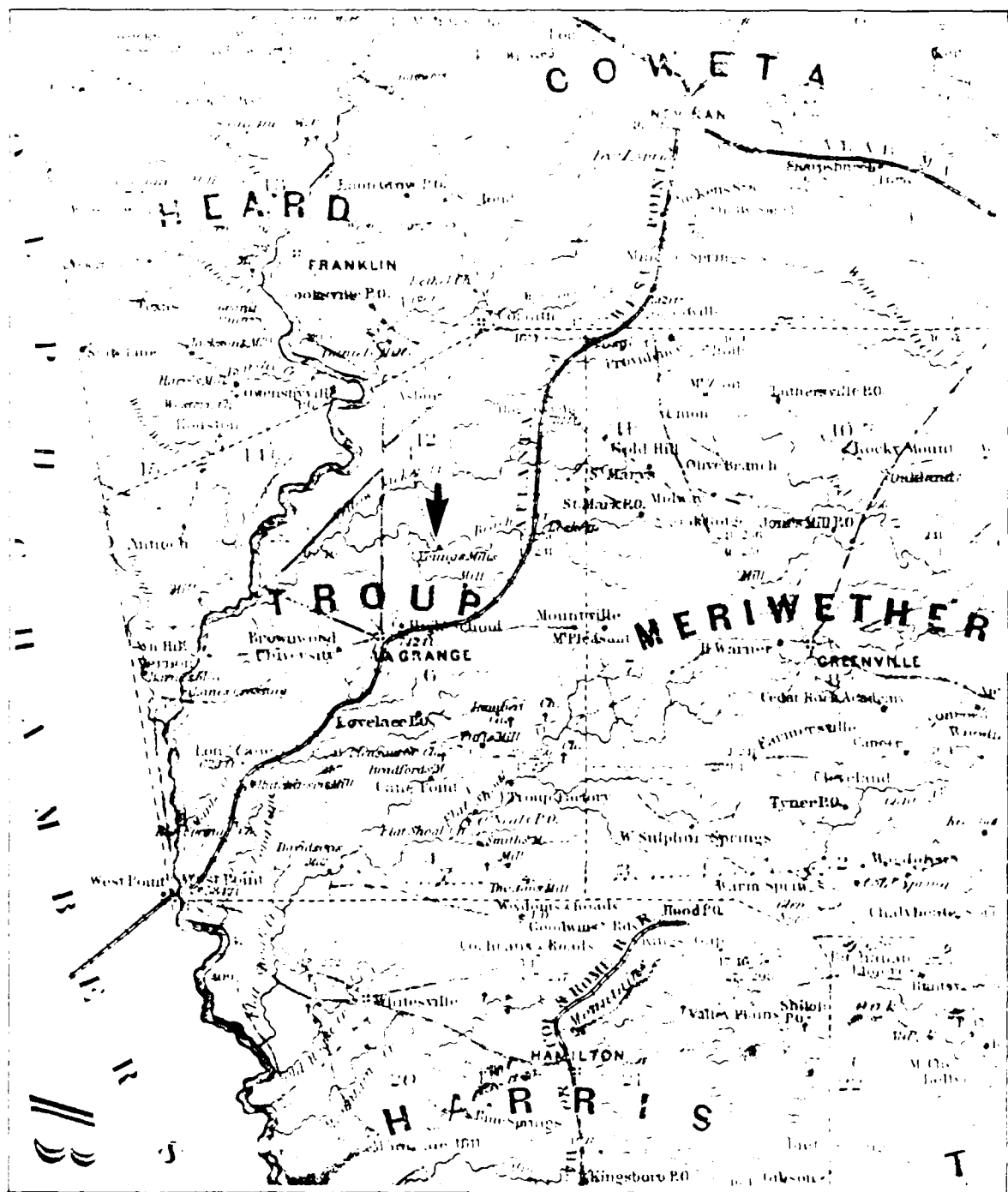


Figure 19. Map of the State of Georgia, A. G. Butts 1882.

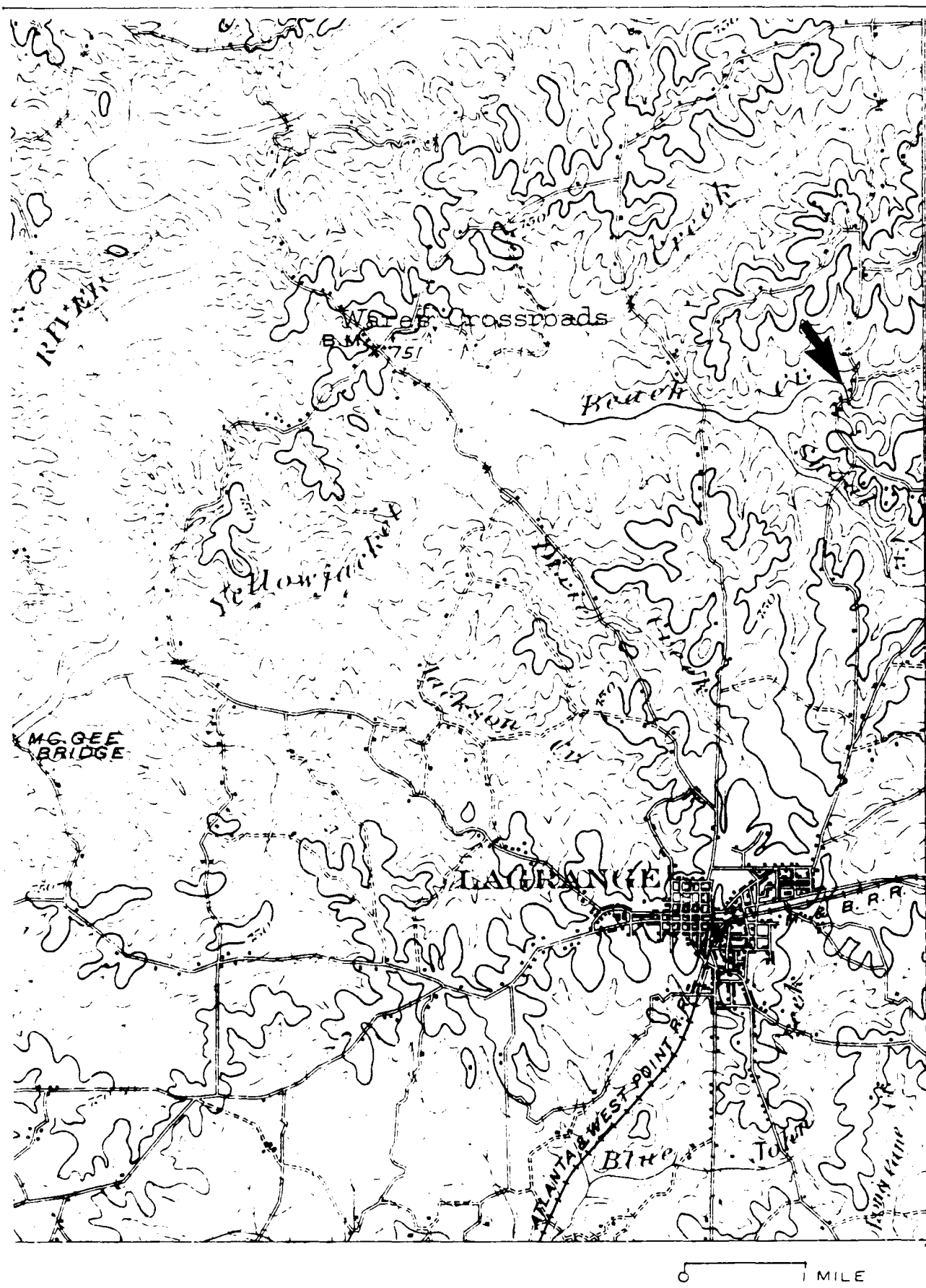


Figure 20. USGS Wedowee Quadrangle, 1902. Arrow Indicates Location of Young's Mill.

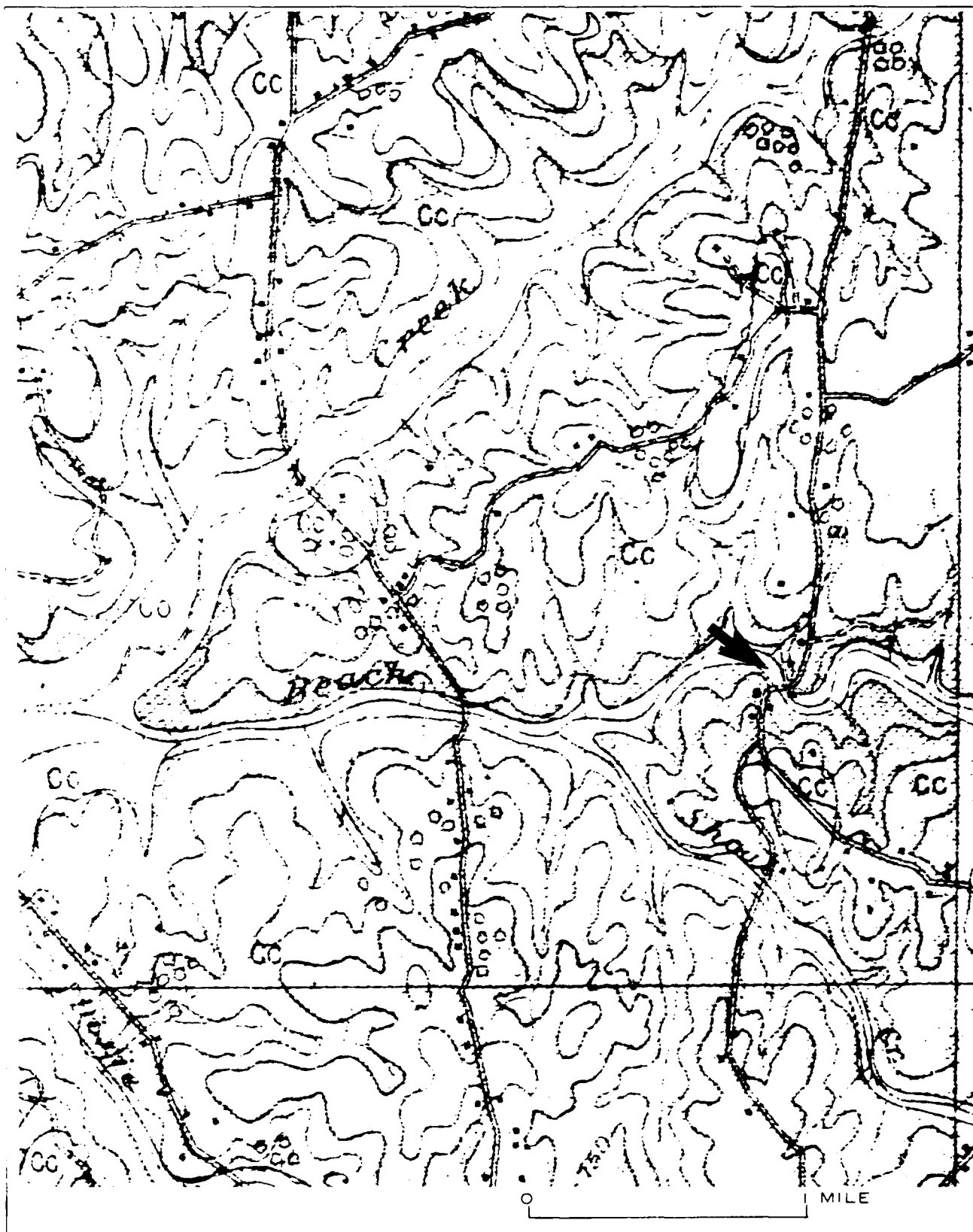


Figure 21. USDA Soil Map of Troup County, 1912. Arrow Indicates Location of Young's Mill.

petitions, but their specific locations have not been found (Forrest Clark Johnson III, personal communication 1988).

Specific references to Troup County mills and their locations do not appear in the literature until the middle nineteenth century. In a general review of Georgia industry and development, George White (1849) records the numbers of mills he found in operation throughout the state. Table 6 summarizes these figures for Troup and neighboring counties.

TABLE 6. Mills in Troup and Neighboring Counties (from George White's Statistics of the State of Georgia[1849]).

County	Flour Mills	Grist Mills	Saw Mills	Other
Troup	10	14	11	
Harris	0	6	8	3 merchant mills
Heard	3	17	13	
Meriwether	0	8	6*	

* includes one steam powered saw mill

The 1850 Population Census lists ten individuals in Troup County as millers (Otto 1978; see Figure 22 for distribution of millers and millwrights in Troup County by Georgia Militia District). By comparison, Harris County lists only two millers for the entire county (Barfield 1961). Only one miller (Amoss Humphreys), is listed in the LaGrange District. Assuming that these figures are accurate, a comparison with White's 1849 counts indicates that a number of the Troup County mills may have been grinding both corn and wheat. Further comparison of these counts suggests that White may have included several small mills wherein grain was ground for the owner's use only; in these cases, the owner may have considered his full-time occupation to have been "farmer" rather than "miller." This may provide an answer as to why John Bird, then owner of Land Lots 160 and 161, is listed as a farmer rather than a miller in 1850.

It is interesting to note that of the nine millwrights listed in the 1850 Troup County Census, the households of four were located near those of millers (Otto 1978). This proximity probably represents an ongoing business relationship, and is possibly indicative of the relative size and production rate of the mill operation.

The 1860 Federal Census of Population lists eight millers in Troup County. Figure 22 indicates a sparse but

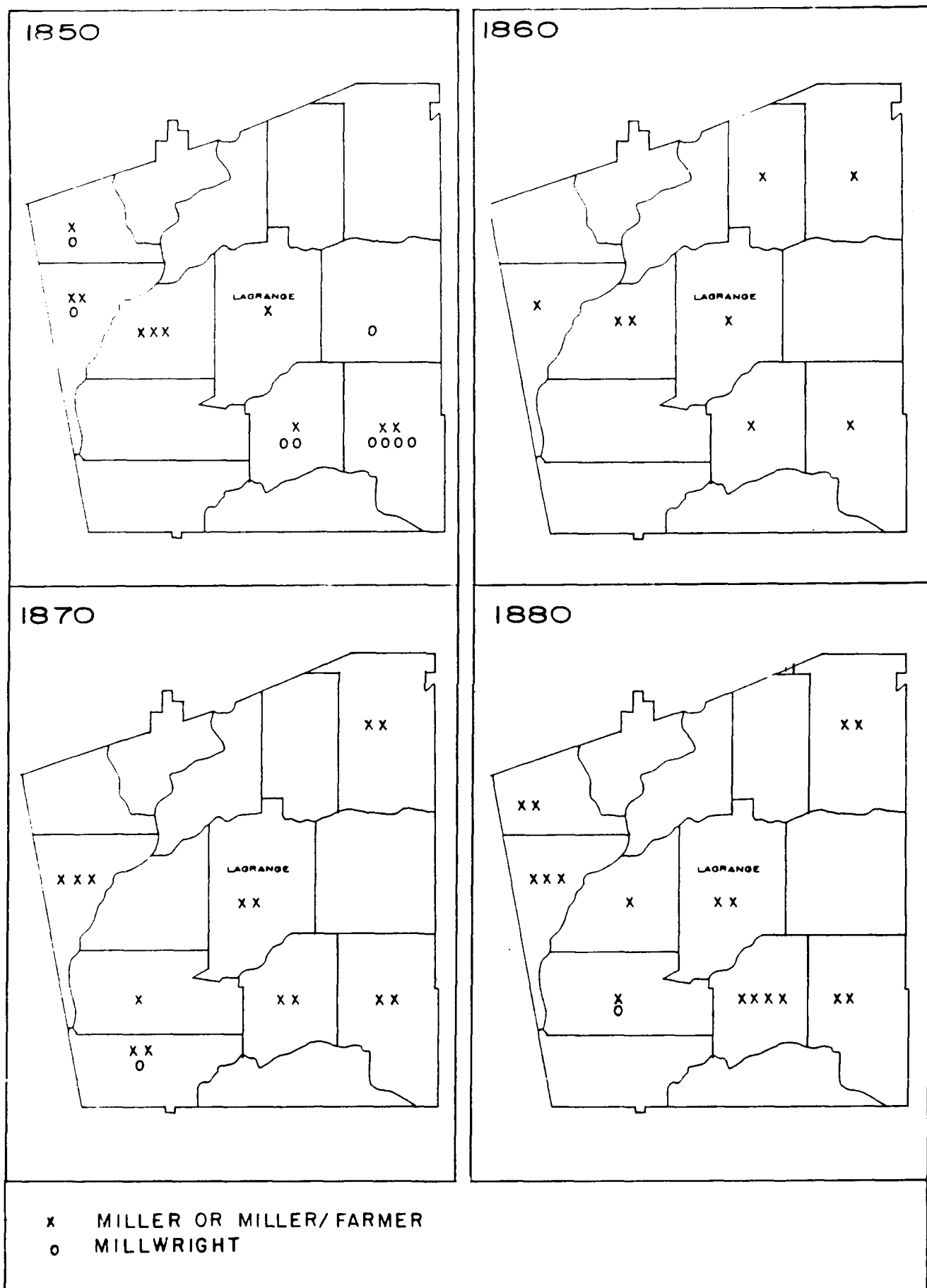


Figure 22. Location of Millers by Georgia Militia District Boundaries, as listed in the 1850-1880 Troup County Federal Population Census

relatively even distribution of mills across the county. A single person, M. McConnel, is recorded as operator of a "corn mill" in the LaGrange District, the only mill listed for the LaGrange area at that time (U.S. Bureau of the Census 1860).

An examination of the 1870 Federal Census of Population revealed the presence of twelve persons listed as "millers" (U.S. Bureau of the Census 1870; Figure 22). Additional, related professions include: one sawyer and one sawmill hand (LaGrange); one mill house keeper (LaGrange); one steam mill hand (Logansville); and one millwright (West Point). It is interesting to note that the mill house keeper (Joshua Cameron) and the sawyer (? Cameron) were black.

Available state business directories and gazetteers record a number of grist, flour and saw mills operating in Troup County from the middle 1870s through the early 1880s (the time of the initial opening of Young's Mill). Listed mills are limited to those businesses within listed towns, i.e., communities having post offices, which could afford advertising, therefore their frequencies cannot be considered representative of the county as a whole. For example, Young's Mill is not listed in any of the available directories or gazetteers, probably due to its distance from a community of any size.

The earliest available business directory dates to the middle 1870s. In 1876, four grist mills (two at Troup Factory and two in Hogansville), one flour mill (owned by James G. Young [no relation], in LaGrange), one saw mill (Troup Factory), and a planing mill (West Point) were recorded (Wheeler et al. 1877). As noted above, Young's Mill is absent from the listings.

According to Sholes' Georgia State Gazetteer and Business Directory (Norwood 1880), the number of grist mills in Troup County increased in the late 1870s, and some shifts in motive power appear to have been taking place. Seven grist mills appear in this directory, including two in Hogansville and one in LaGrange. While motive power was not indicated for three of these mills, three were water powered, and one was described as a steam-powered, combination grist and saw mill. This steam mill was located in Asbury (present-day Harrisonville).

The 1880 Special Schedule of Manufactures (U.S. Bureau of the Census 1880b) provides more complete information on Troup County mills. The Manufactures Schedule lists five grist mills and thirteen mills processing both wheat and corn in Troup County. Four of the five grist mills were run by turbines; the fifth was powered by a tub wheel. All but three of the combination grist and flour mills were powered by turbines (several with as many as four); Other power

units consisted of one forty horsepower steam engine, one breast wheel, and one tub wheel. It is also interesting to note that four of five saw mills listed for Troup County in 1880 appear to have been operated in combination with grist mills (Appendix B).

The 1880 Manufactures Schedule is the only source found for production and employment figures for Young's Mill and other competing mills in Troup County. According to Jeane (1979:16-17), caution must be exercised in the use of this information; however, meaningful, comparative information can be obtained from these records.

According to calculations performed on the Manufactures Schedule data, Young's Mill was competing successfully with other mills of comparable size in the county. While producing only four percent of the wheat flour ground in Troup County during the census period (June 1, 1879 to May 31, 1880), Young's Mill ground nearly thirty percent of the corn meal and fourteen percent of the feed. Production at Young's Mill for the census period totalled \$21,000, fourteen percent of the total county production (see Appendix B for raw data).

Listings in the Georgia State Gazetteer and Business Directory, 1881-82 (Standard Directory Company 1882) differ somewhat with federal census information for 1880. This directory lists five grist mills (including steam mills in Asbury [Harrisonville] and Hogansville), two flour mills (both in West Point) and three saw mills. There are no mills listed in LaGrange.

A graphic representation of mills in or near Troup County, known to have been in operation in the early 1880s (and possibly in competition with Young's Mill) is presented in Figure 23. The names of these mills and references for their locations are listed in Table 7.

Due to a number of missing pages, the 1886 Georgia State Gazetteer (manuscript on file, Georgia Room, Hargrett Library, University of Georgia), contains only a partial listing of mills in Troup County. In addition to "several" unspecified water-powered mills and a steam powered mill in LaGrange, this gazetteer lists two grist mills, two flour mills (one in Hogansville), and one saw mill for the rest of the county.

Figures are incomplete on the number of mills in operation in Troup County after the turn of the twentieth century. Stevens and Wright (1901:851) list only one grist mill (and two planing mills) in Troup County in 1900. Pike Brothers, "Contractors and Builders in La Grange," advertised the recent opening of a "first-class corn mill" (The LaGrange Graphic, July 17, 1900, 13:4), and their

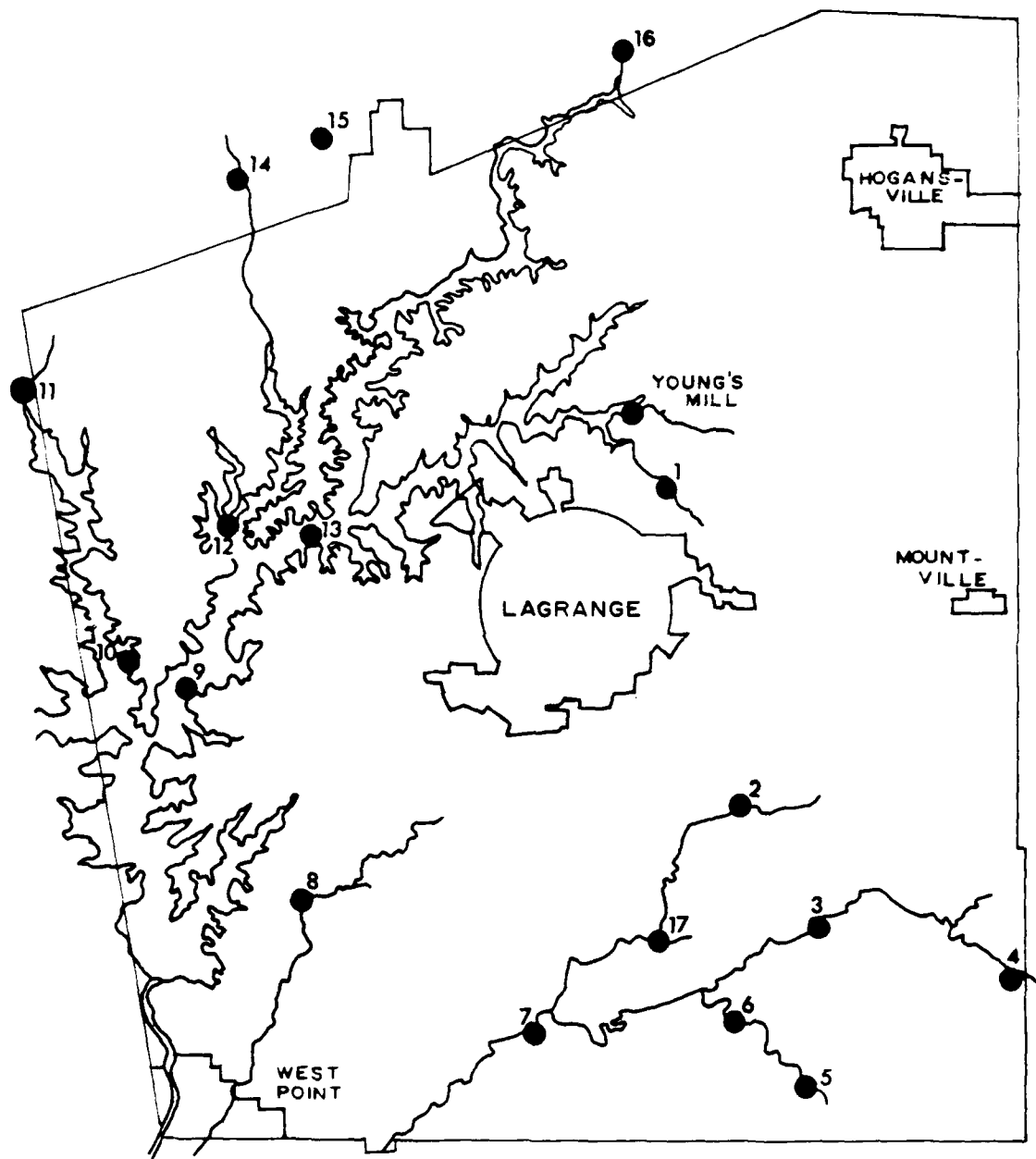


Figure 23. Troup County Mills Operating in the 1880s
Numbers refer to Table 7.

TABLE 7. Known Mills In Or Near Troup County, Georgia.

MAP #	MILL LOCATIONS PLOTTED REFERENCES
Young's Mill	This Report.
1. Unnamed Mill on Shoal Ck (McGee Mill?)	1882 Map. Proximity of McGee Chapel and McGee Cemetery to plotted mill suggest it is McGee Mill (LaGrange) in Leffel (1883)
2. Tufts Mill (Truitt's?)	1882 Map. The 1880 census lists a Truitt's Mill on Mud Creek, where Tufts Mill is plotted.
3. Troup Factory (and predecessors)	Maps of 1829, 1846, 1863, 1870, and 1882. 1880 Census. Leffel (1883). SPOOM (1981).
4. Dallas Mill	SPOOM (1981).
5. Dunlaps Mill	1882 Map.
6. Smith's Mill (O'Neals ?)	1882 Map. 1880 Census. 1879 and 1881 State Directories.
7. Davidson's Mill	Maps of 1847, 1863, 1870, and 1882. Leffel (1883).
8. Hutchinson Mill	1882 Map.
9. Arnett and Hendrix Mill (1840-1886)	LaGrange Daily News (1969)
10. Barnes Mill	1882 Map.
11. McCosh's Mill	Jeane (1979).
12. Unnamed Mill on Wehadkee	1882 Map.
13. Cambron Mill	1882 Map.
14. Jackson Mill	1882 Map.
15. Harris Mill	1882 Map.
16. Daniel Mills	1882 Map.
17. Bradford Mill	1882 Map.

operation of a planing mill (The LaGrange Reporter, February 1, 1900, 57[6]:7) in 1900. In 1910, The LaGrange Reporter reported "Mr. H.W. Caldwell has just installed a modern grist mill at his place on Whitesville Street [LaGrange]," and noted that "this is something that LaGrange has needed for a long time" (The LaGrange Reporter, February 10, 1910, 68[6]:1).

USE HISTORY

Two primary references have been found which suggest that a mill operation may have existed at the study site prior to Young's ownership of the tract (i.e., pre-1868). The first reference appears in the minutes of the Troup County Inferior Court for 1834, in which a petition is presented for the construction of a road from John Bird's Mill to Shiloh meeting-house. While these court records were not available for research at the time of this study, a Troup County historian with access to the Minutes has suggested that this road, a former Indian trail, may have followed the present Young's Mill Road (Forrest Clark Johnson III, personal communication 1988). While this assertion could not be independently verified, the presence of a road near this location on early Georgia maps (Bonner 1847; Butts 1870), and John Bird's recorded ownership of the south half of Land Lot 160 by 1835 (TCDB D:331) seem to support this suggestion.

The second reference to a previous mill at Young's Mill is found in an 1877 mortgage note signed by Robert M. Young with the LaGrange Banking and Trust Company. Among the property offered as collateral for this mortgage is:

...the Bird old mill and settlement of land lying in the (12th) Twelfth District of said county...consisting of Nos. 160, 161 [and] 162 (TCDB R:442).

This reference provides a general location for John Bird's mill and, taken in conjunction with the previous evidence, increases the probability for the presence of an earlier (ca. 1830) mill operation in the immediate vicinity of Young's Mill.

Unfortunately no other records have been recovered which refer to Bird's Mill. An examination of John Bird's will (probated November 8, 1853; Troup County Will Book B:73) and the appraisement of his estate (recorded January 13, 1854; Troup County Court of Ordinary, Inventories and Appraisements Book K:643) revealed no references to a mill or mill equipment.

No firm date has been determined for the initial construction of Young's Mill. Robert M. Young's 1868 purchase of the land lots on which the mill stood provides a terminus post quem (1868) for its establishment as Young's Mill. Joseph L. Young, grandson of Robert M. Young Sr., provides an undocumented date of construction of 1875 (Joseph L. Young:Appendix A).

In the mid 1870s, Robert Young participated in a number of land transactions which may indicate a restructuring of his holdings, possibly in preparation for funding a major property improvement. In 1874, Young sold a 600 acre tract lying south of his Yellowjacket/Flat Creek holdings for \$6,000 (TCDB P:608). One year later, Young sold his property on Yellowjacket/Flat Creek (then consisting of nearly 1,400 acres) for \$5,000 to a business firm in Fulton County (Q:548). In 1876, he transferred another tract (Land Lot 5 in the Hogansville District) to this Fulton County company to secure payment of an additional \$5,000 loan (TCDB R:26). During January and March of 1877, Young borrowed \$2,240 from a Dougherty County man (TCDB R:268), and mortgaged his Beech Creek plantation (then estimated to contain over 1,800 acres; TCDB R:442). Any combination of these transactions would have provided Young with adequate capital for the construction and operation of a mill (Note: The 1880 Special Schedule of Manufactures records invested capital of \$6,000 for the operation of Young's Mill between June 1879 and May 1880).

The earliest recorded reference to a mill owned by the Young family appears in 1878, in the last will and testament of Robert M. Young. In this document, Young refers to his "Mill Place" and "Mill," reserving the surrounding land to the use of his surviving family (TCWB B:422-423).

The 1883 James Leffel & Co. catalog (Springfield, Ohio) records the purchase of a 48 inch Leffel Water Wheel by Col. R.M. Young of LaGrange, Georgia. This listing, according to the catalog, is a combination of an 1873 list and all purchases made from 1873 through 1882 (Ken Brown, Kvaerner Hydropower, Inc. [successor to Leffel and Co.], personal communication 1988). Reference to Colonel Young as the purchaser indicates that this initial equipment purchase took place prior to his death in 1878.

The person responsible for the initial construction of Young's Mill has not been firmly established. According to Joe L. Young (grandson of Robert M. Young Sr.) the original Young's Mill was built by a man named "Hanes" (LaGrange Daily News 1971:1). No documented references for a "millwright" named Hanes in Troup County during the 1870s could be located during this research; however, the 1870 Federal Population Census Schedule for Troup County lists Albert Haynes as a 31 year old "Wheelwright" in the LaGrange

District. The 1860 federal census lists T.G. Haynes as a "Mechanic" (a general profession description which may include millwright) in the LaGrange District of Troup County, and records A.W. [Albert?] Haynes as his 21 year old dependent (U.S. Bureau of the Census 1860).

In 1878 and 1879, A. P. Abraham, executor of Robert M. Young's estate, began selling Young's ancillary holdings, as provided for in Young's will (TCWB B:442). In addition to tracts in the Harrisonville (part of Land Lot 84; TCDB S:742) and Hoganville (a lot on Flat Creek; TCDB S:429) areas, Abraham sold a 30 acre lot and a house in LaGrange "whereon Robert M. Young deceased resided at the time of his death" (TCDB T:59), suggesting that Young's family relocated to the Beech Creek property after Robert's death.

Operation of Young's Mill appears to have survived the death of its founder, as evidenced by the listing of Susan W.[sic] Young (Robert's widow) as the owner of the mill on Beech Creek (U.S. Bureau of the Census 1880b). The presence of James Cagle (whose occupation is listed as "Runs Flour Mill") immediately following Susan Young's entry in the 1880 Population Census for Troup County may indicate a lack of participation of the mill owner in day to day mechanical operations.

Information on the operation of Young's Mill during the late nineteenth and early twentieth centuries is limited primarily to data provided in the 1880 Troup County Census of Manufactures. According to these records, the mill operated year-round, full-time (slightly reduced hours between the months of November and May), with one "skilled mechanic" (paid one dollar per day), and at least one laborer (50 cents per day). The two runs of stone at the mill were powered by a five foot Leffel turbine, grinding wheat and corn, into flour, meal, and feed. With a capital investment of \$6,000, Young's Mill produced \$21,000 in grain products between June, 1879 and May, 1880. No saw mill was listed, due either to its nonexistence in 1880, or to a yearly production falling below the \$500 lower limit (U.S. Bureau of the Census 1880b).

The earliest depiction of specific structures at the Young's Mill site appears in an 1896 survey plat of "The R.M. Young Place" (TCDB 16:12-13; Figure 24). This survey may have been undertaken in anticipation of the 1897 sale of the tract to Lottie Guinn Young (TCDB Y:537). In addition to the Young house and a number of tenant "cabins," the plat shows a saw mill and mill flanking a dam across Beech Creek. This plat provides the earliest direct evidence of the presence of a saw mill at the site, and suggests that the Young family was in residence on the property through the middle 1890s.

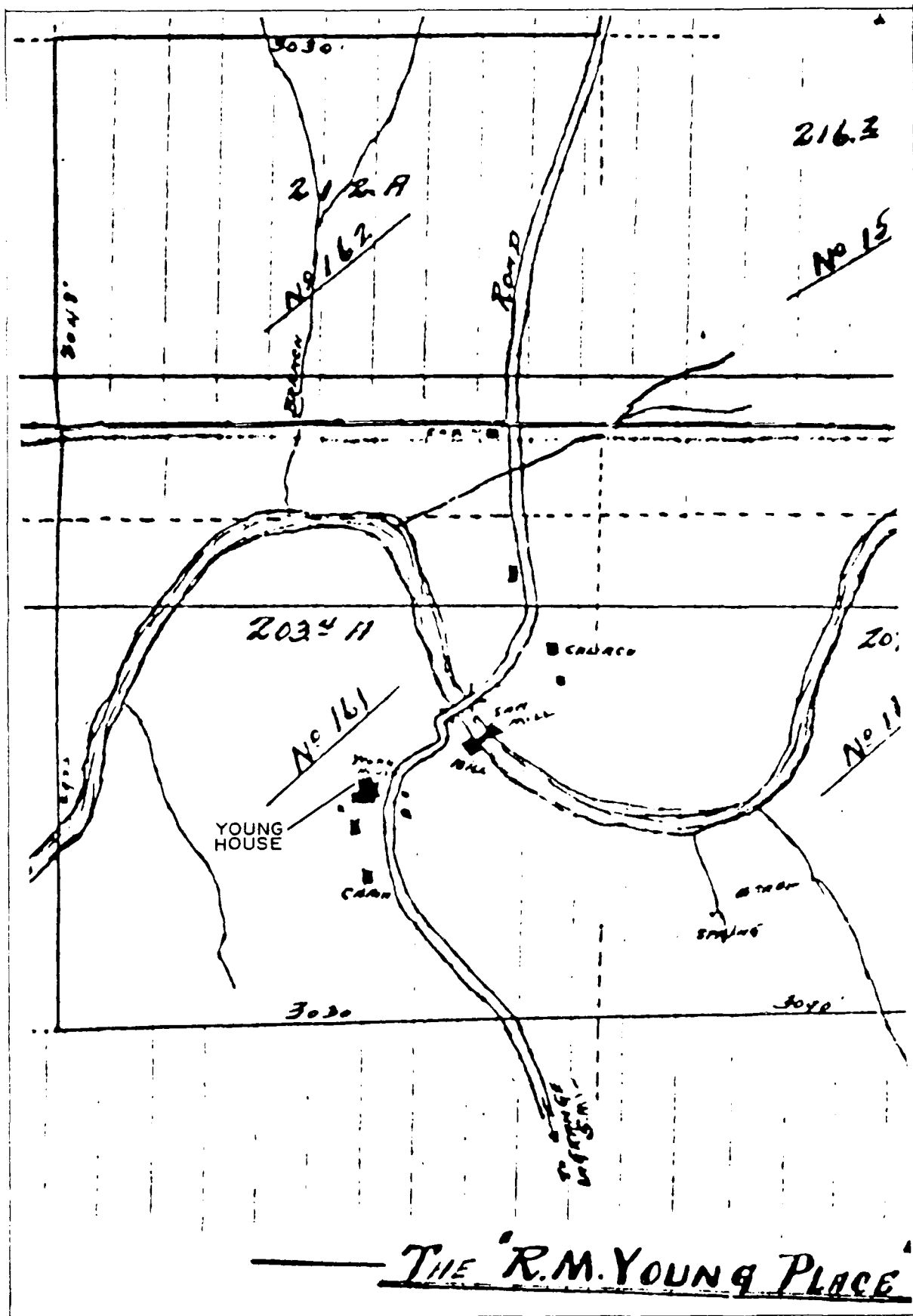


Figure 24. Plat from 1896 Survey of the R. M. Young Place (TCDB 16:12-13).

An equipment purchase from James Leffel & Co. in the late 1890s may indicate an expansion or renovation of Young's Mill at that time. In June, 1898 (one year after the sale of the mill property to Lottie Guinn Young), R.M. Young [Jr.] ordered a 23 inch, Sampson Upright Turbine from Leffel & Co. (Ken Brown, Kvaerner Hydropower, Inc., personal communication 1988). The purchase of this turbine has several possible implications. Given the possibilities of an error in the order date, or confusion of the order date with the date of final payment (see Chapter 6), this turbine may have been purchased for the construction of the saw mill. The presence of the saw mill on the 1896 survey plat, two years prior to the turbine order date, makes this suggestion tenuous. The machinery may also have been purchased as a replacement power plant for either the saw mill or the grist mill, however supporting evidence for this suggestion could not be found.

Informant data, city directories, and available state gazetteers indicate that the Young family may have pursued a primarily supervisory role in the operation of the mill from the late 1890s until its closing in the middle twentieth century. As a teenager, Robert M. Young Jr. had lost an arm in a farm machinery accident, probably curtailing his direct participation in the mill operation. After attending law school at the University of Georgia, Young began a practice in LaGrange, which led to his election as County Ordinary in 1886. He occupied this office until 1896, and served in the State Legislature from 1907 to 1910 (Johnson 1987b:541). According to Joseph L. Young (interview 1980) and Wiley Williams (interview 1989), Robert M. Young Jr. spent little time at the mill, preferring to hire a mill operator (Figure 25).

The sequence of millers at Young's Mill has been partially reconstructed from informant data and census records. A list of these mill operators is presented in Table 8. No information could be found concerning the length of employment of James Cagle, the first recorded miller at Young's Mill (U.S. Bureau of the Census 1880a). Wiley Williams recalled his father speaking of a previous miller named Hackney (or Hackner?), but the milling span for Hackney is unclear and may have occurred either between 1880 and 1914, or after 1919. Daniel Earl Fling ran the mill from 1914 to 1919 (Emmett Fling, personal communication 1989). A Mr. Freeman operated the mill from 1925 through 1927 (or 1928). Frank Williams followed Mr. Freeman, working at the mill through 1931. Wiley Williams, Frank Williams' son, ran the mill from 1931 through 1937. Gerald Scott operated the mill from 1937 through 1939, and his son "Bo Peep" Scott took over for him, running the mill until 1939, when John Young stopped operations at the death of his father, R.M. Young Jr. (Helen Young, personal communication 1988). A Mr. Hard is reputed to have run Young's Mill after

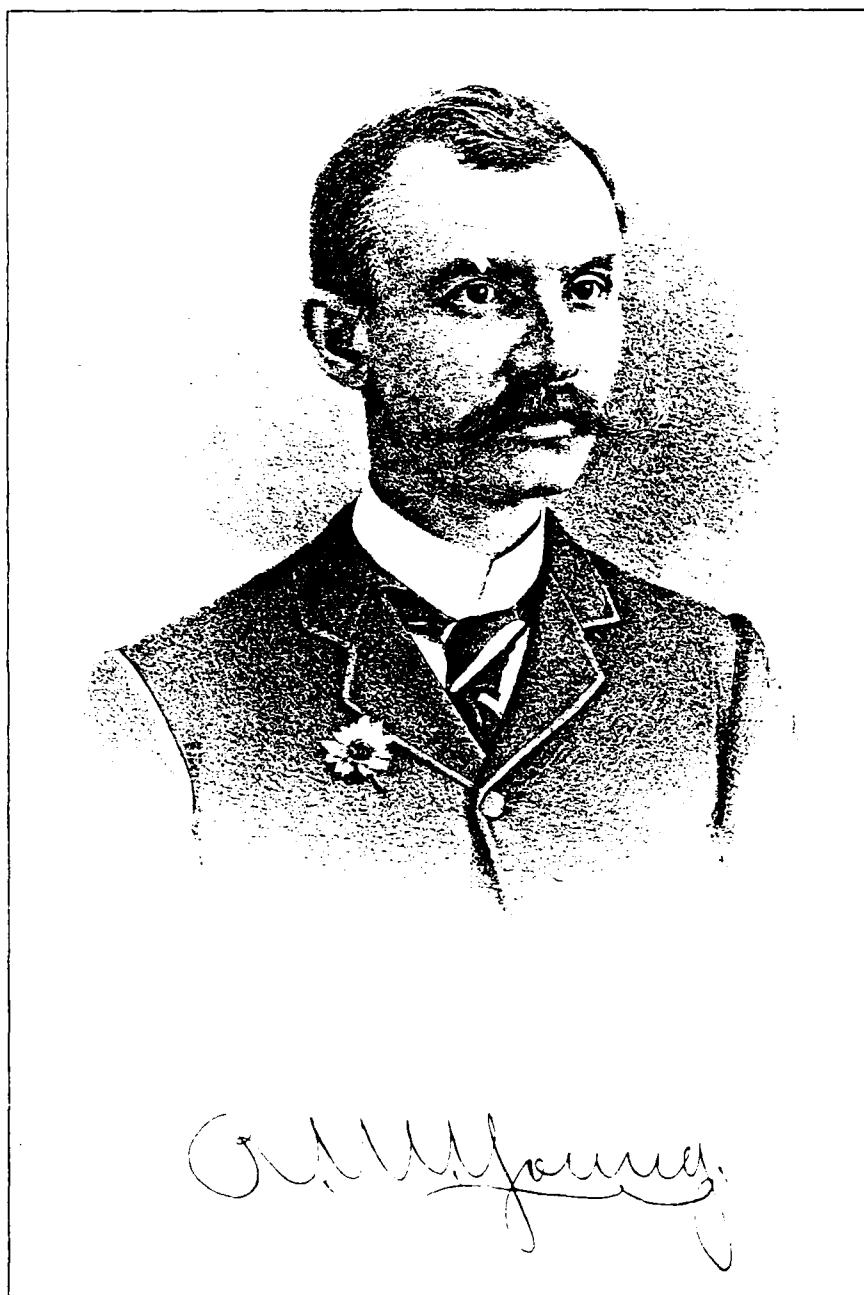


Figure 25. Portrait of R.M. Young, from F.A. Battey & Co. (1889).

TABLE 8. LISTING OF KNOWN OPERATORS AT YOUNG'S MILL.

Operator	Time Span
James Cagle	ca. 1880 - ?
? Hackney [or Hackner]	? - ?
Daniel Earl Fling	1914 - 1919
? Hackney [or Hackner]	1919 - 1925
? Freeman	1925 - 1927/28
Frank Williams	1927 - 1931
Wiley Williams	1931 - 1937
Gerald Scott	1937 - 1939
"Bo Peep" Scott	1939 - 1944
? Hard	1944 - ?

Joseph Young re-opened it in 1946 and until its close in the middle to late 1950s (Wiley Williams interview 1989; Joseph L. Young interview 1980).

In 1911, Young's grist mill was destroyed in an accident involving the county road maintenance crew (Figure 26). The local newspaper reported:

Yesterday the road working crew that are at work on the Young's Mill road, placed a charge of dynamite and powder in the hill at that place that completely destroyed the mill. In some manner they did not judge the way in which the force of the explosion would go, and when the smoke cleared away they found the mill completely demolished, buildings near by damaged, and considerable damage done to the bridge that spans the creek at that place. The property belonged to Mr. R.M. Young, of this city, and was one of Troup County's oldest landmarks (The LaGrange Reporter 21 April, 1911).

It is not clear whether the saw mill was damaged in this accident. According to Joseph L. Young, the grist mill was immediately rebuilt by his father, R.M. Young Jr., and a number of hired laborers, using timber cut from his land (LaGrange Daily News 14 October, 1971). Williams (Wiley Williams: Appendix A) recalled that either the county or the state paid for the reconstruction, and that milling after this time was limited to the grinding of corn.

Joseph Young states that the years immediately following the reconstruction of the mill and prior to World War I were the "busiest" for the mill. Young also indicates that Young's Mill remained in operation during the depression, but was closed before the beginning of World War II (Joseph L. Young: Appendix A). Mrs. Helen Young (widow of Joe L. Young) recalls that the mill went out of business in 1939, after the death of R.M. Young Jr. (personal communication 1988). Young's Mill resumed operation in 1946, when Joseph L. Young returned from military service and had the flume gates rebuilt (Joseph L. Young: Appendix A). While Joseph Young indicated that the grist mill closed a few years after this reopening "due in large part to government regulations" (Yates 1980:3) the mill may have continued in use intermittently until the late 1950s. Lottie Guinn Young's death in 1959 may also have contributed to the final closing of the mill (Helen Young, personal communication 1988).

Information concerning the operation of the saw mill during the early to middle twentieth century is somewhat limited. Williams recalls that the saw mill was run only sporadically during the late 1920s through the late 1930s,

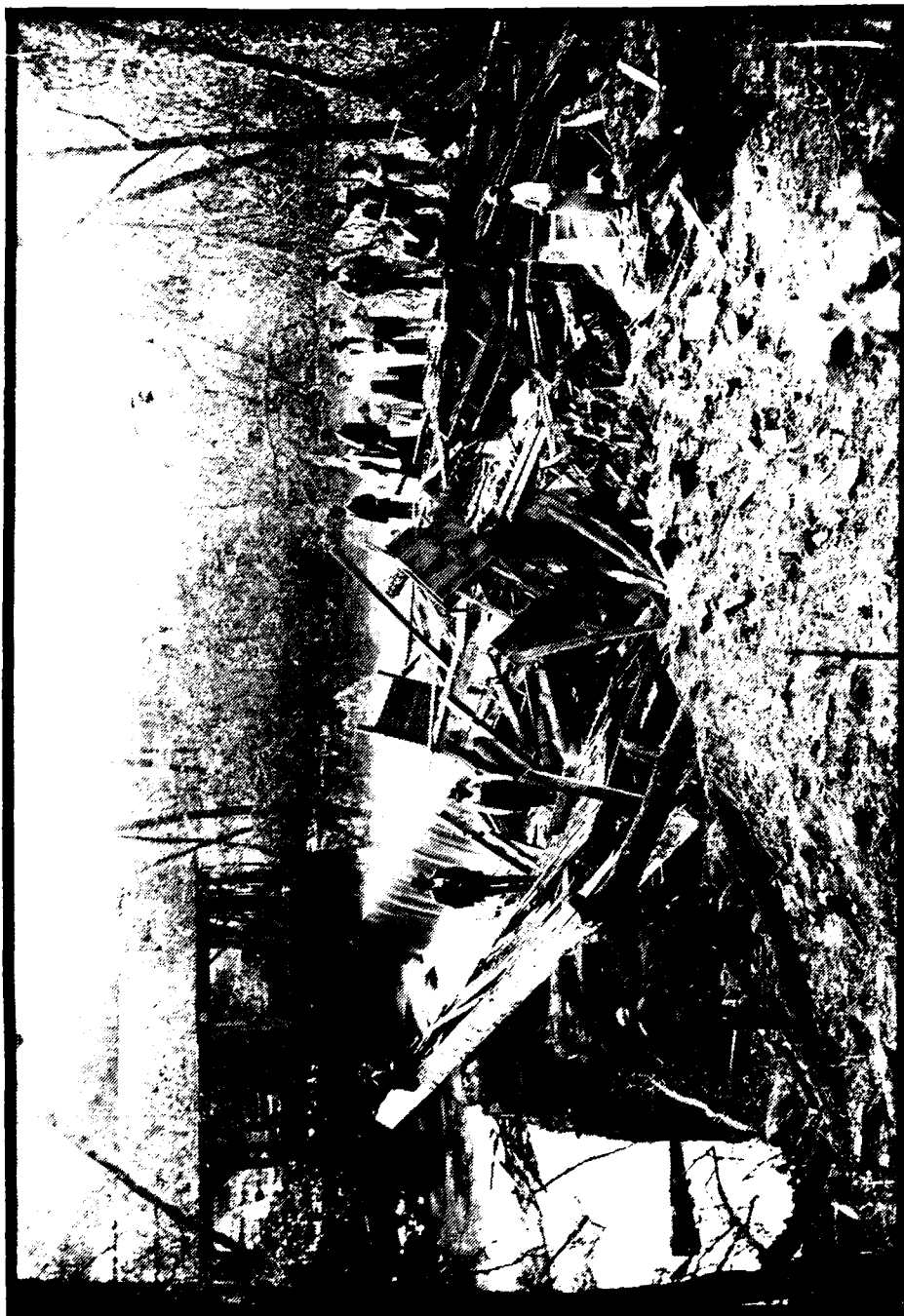


Figure 26. 1911 Damage to Grist Mill. Source: Mr. E. Fling.

primarily to provide lumber for Robert M. Young Jr.'s building projects (Wiley Williams: Appendix A). When asked to compare business activity at the saw mill with that at the grist mill, Joseph L. Young stated

Well, there's no comparison because they kept the grist mill running ... and they only used the sawmill in the fall of the year and the winter when there was ample water. When it got dry in the summertime, I didn't dare use the sawmill because I'd save the water for the grist mill (Joseph L. Young: Appendix A).

The buildings at Young's Mill began a period of decline after mill operations were abandoned. Photographic evidence (see Chapter 6) indicates that the saw mill was still standing during the late 1940s, but there is no indication that it was still in use at that time. After 1960, the grist mill building was used sporadically by local hunters for meetings. The structure was vandalized periodically until 13 October 1971, when Young's grist mill burned to the ground in "a fire of mysterious origin" (LaGrange Daily News 1971:1).

Documentation of day to day activities at the grist mill during its use comes primarily from an interview conducted with Mr. Wiley Williams on 24 January 1989 (Appendix A), and relates to his term as miller at Young's Mill (1931-1937). Williams recalls that customers came from all around the area (including sections of Troup and Meriwether counties, Georgia, and across the state line from Alabama), to purchase meal and to have their corn ground at the water powered mill. People would begin coming to the mill during harvest in the fall, and would continue to bring corn to be ground throughout the winter. The mill had to be run all day and sometimes late into the night to keep up with the demand for meal. The amount of corn processed by the single stone in operation often reached 200 bushels per day. While most of the corn was ground for home use, some meal was taken to nearby stores in LaGrange and Harrisonville and sold there.

The mill operator normally charged customers one peck of corn for every bushel to be ground; however, Williams notes that Robert Young Jr. often gave meal to those in need during hard times in the 1930s. Pay for the mill operator consisted of a daily wage, and was often supplemented by free housing, firewood, and meal. Operation of the mill was usually handled by a single worker; however, the corn sheller was often manned by customers.

The grist milling operation at Young's Mill appears to have outlasted other small, local milling concerns. According to Mr. Williams

at that time a lot of mills was around, but that [Young's Mill] was the only water ground mill. You know, there a lot of difference between a water ground mill and steam and all these other mills ... People'd rather have water ground meal than these other meals ... Most of these mills run by these engines I reckon run faster. Don't have the same speed as the water ground mills. It just naturally tastes better. The meal tastes sweeter...

Chapter 6. YOUNG'S MILL TECHNOLOGY

NATURAL SETTING

Topography

Young's Mill is located in the Midland section of the Piedmont province (Wharton 1978), also referred to as the Lower Piedmont (Harper 1930). The topography is dominated by rolling hills and ridges between dendritic drainage systems flow to the west/southwest. The natural soils of the area are predominately clayey loams and clays derived from underlying granite, gneiss, and schist. Shoals are present throughout Troup County in areas where granite uplifts resist stream entrenchment. Moderate to severe surface slope is reflected in the soil mapping units; 31 percent of the surface soils of Troup County have six to ten percent slope, and 45 percent of the soils have greater than ten percent slopes (Brooks 1980).

Climate and Precipitation

The climate and precipitation of the region determine not only the growing season and agricultural potential, but also the feasibility of yearround mill operation. In 1912 (Sweet and Smith 1912), the average annual precipitation was calculated as 49.1 inches (range 33.9 to 73.1 inches). The fall months had the lowest average rainfall (18% of yearly total), and rainfall was relatively even for the winter (29%), spring (25%), and summer (27%) months. The growing season is usually between 197 and 237 days. Cotton, corn, soybeans, and grain crops do well in this climate, as do hardwood and coniferous trees (Brooks 1980).

Hydrology

The 50 inches of annual rainfall results in an average of 11 inches of surface runoff in the Troup County area. Thirty-five inches of the remainder is lost to evaporation, while approximately 6 inches enters the water table. The surface runoff and ground water discharge combine to create a stream outflow of 17 inches. Surface water in the region follows a pattern of long, relatively narrow drainage basins feeding directly into the Chattahoochee River or one of its major tributaries.

Beech Creek at Young's Mill is a rank 4 stream; its rank reflects its narrowness and lack of major tributaries. It drains approximately 13,950 hectares (34,456.5 acres) above the mill. Elevations in the drainage basin range from 920 to 625 feet amsl. The creek is generally mud bottomed

in the general vicinity of the mill, but current conditions may reflect the results of extreme soil erosion during the late nineteenth and early twentieth centuries (Trimble 1974).

PRESENT SITE STRUCTURE

The site structure, as documented in the associated portfolio, is dominated by the remains of the dam, flumes, and structural piers (Figure 27). In addition, the walls of the office/store building are standing, as is the chimney of a cabin. Young's Mill, from at least 1896 to 1945, consisted of both a grist mill and a saw mill, located on opposite ends of the dam; the grist mill on the west, and the sawmill on the east.

Dam

The dam is a coursed granite structure with a cement cap. It measures 83 feet from flume to flume, and its height varies from 6.9 feet on the eastern edge of the dam to 10.5 feet at the western flume. The variability in dam height is directly related to the contour of the underlying bedrock. Probing and sounding demonstrated that bedrock extended under the entire length of the dam.

The dam has a 6.5 feet wide top, and is stepped down to the south (upstream side) in a series of six 0.7 feet drops separated by 1.0 feet horizontal steps. The front (north, downstream) face of the dam angles out slightly from top to bottom. Maximum thickness is estimated at 15 feet at the western base of the dam.

The dam is buttressed by a short (27 feet) retaining wall on the west, and a more substantial wall on the east. The eastern retaining wall is capped in cement for 35 feet, and then is comprised of loose granite rubble for an additional 74 feet. The difference in retaining wall lengths is probably due to the steeper contours on the western bank.

Grist Mill

The grist mill sat above the western flume (Figure 28). The main body of the flume was constructed of formed concrete, apparently poured between set pylons (Figure 29). The entire flume structure measures 30.5 feet in length, with the following elements contributing to that figure: head race/trash gate (3.5 feet); control gate (2.0 feet); stilling basin (5.0 feet); and open flume (20.0 feet). No trash gates are present, but a double, wooden control gate

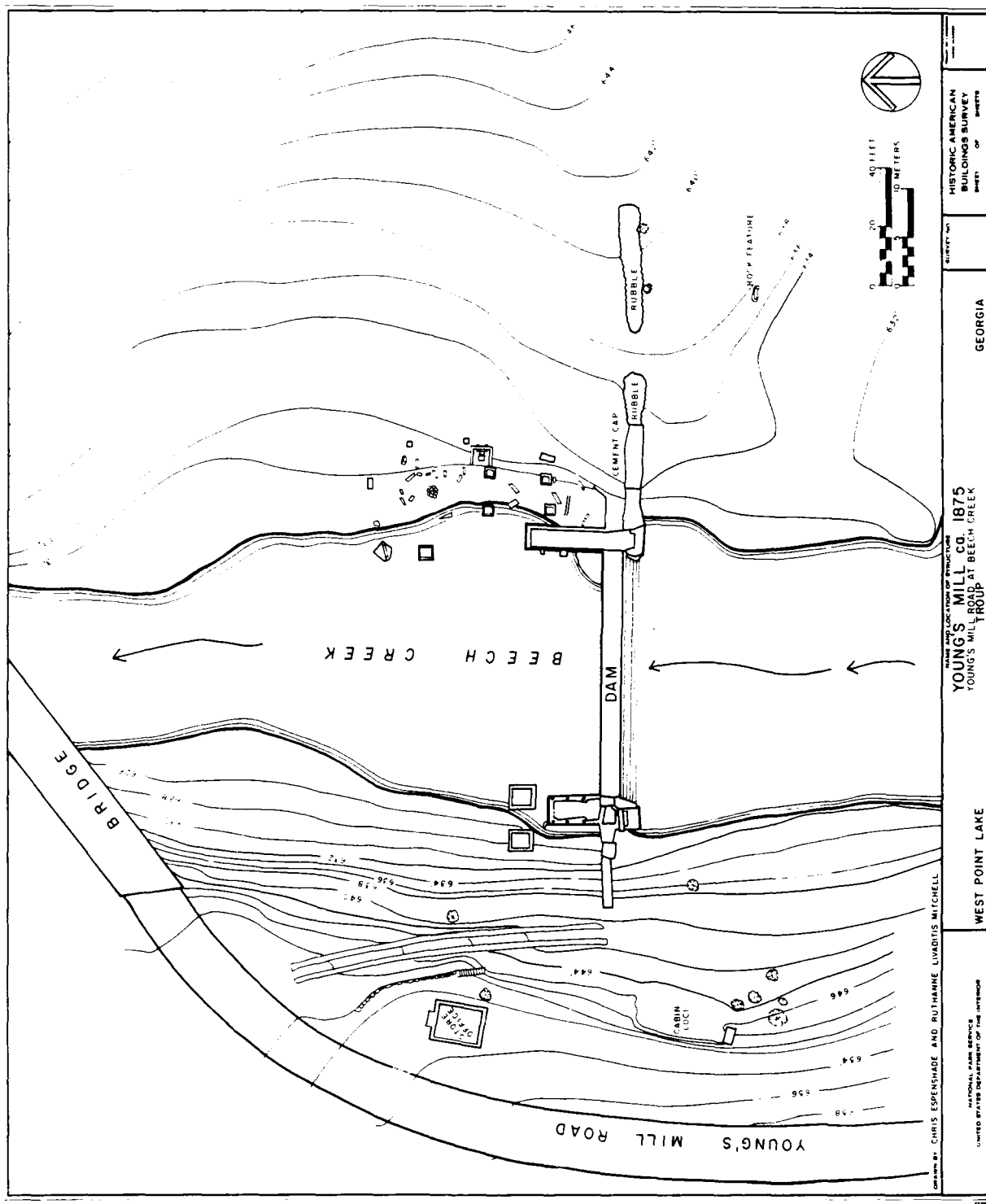


Figure 27. Site Map of Young's Mill.



Figure 28 . Young's Mill Grist Mill, ca. 1947.

Source: Mrs. Helen Young.

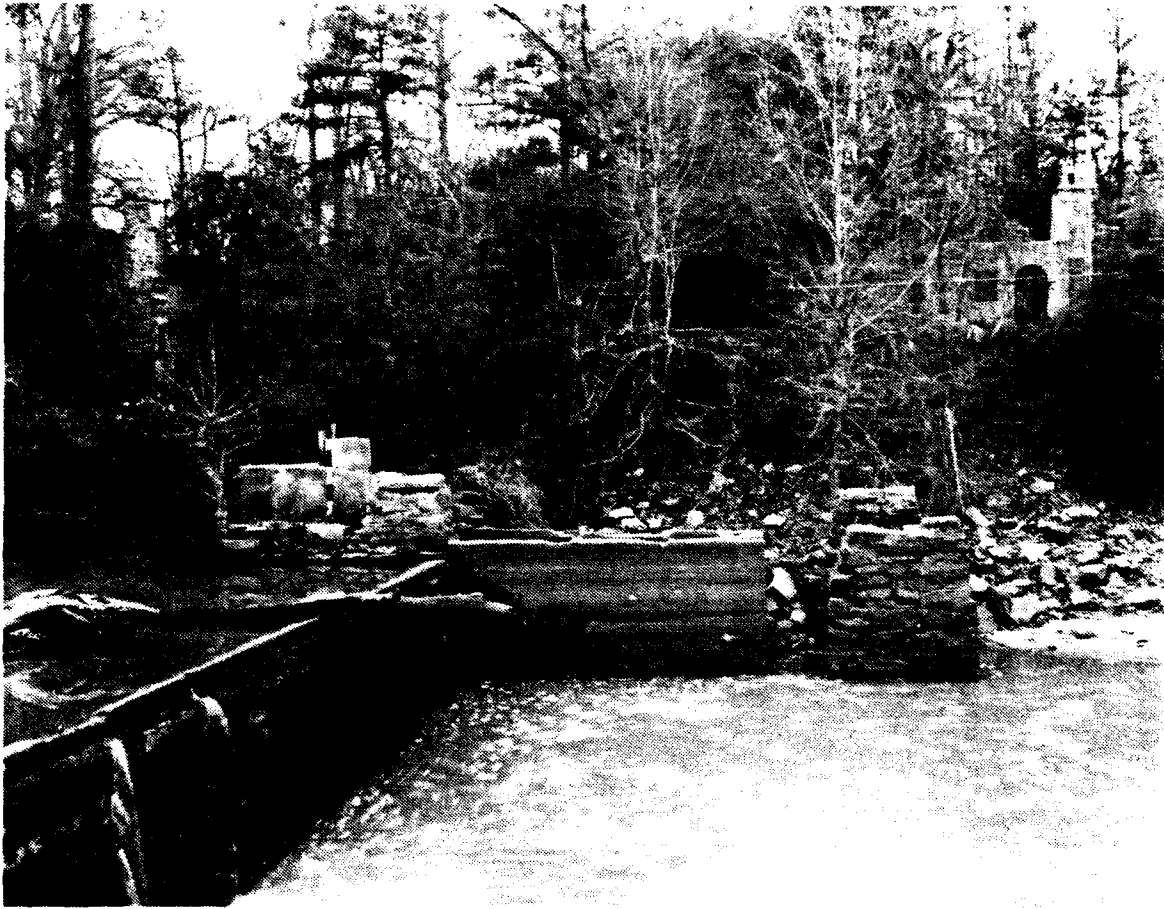


Figure 29 . View of Grist Mill Flume and Piers with Cabin Chimney and Store/Office in background, view towards West.

is in place. The control gate opens into the stilling basin, from which water exits through a 3.0 feet diameter orifice. The stilling basin apparently served to lessen efficiency-robbing turbulence, while also increasing head by lengthening the flume. The interior measurements of the flume proper were 7.5 feet maximum width by 18.8 feet length. The water exited the flume either through a 4.0 feet diameter opening in the flume end or through the undocumented (submerged) turbine seat opening.

No direct evidence of the motive power was present on the grist mill side of the site. The flume did contain one of the grindstones from the mill (Figure 30). The stone was apparently produced of local granite, and was dressed with a quarter dress. It was 3.8 feet in diameter, with a center opening of 1.2 feet and a thickness of 1.0 feet. The stone was surrounded by an iron band. The shaft upon which the stone was apparently mounted was also present in the flume. A second grindstone was partially visible beneath the water directly north of the flume.

Another artifact was located adjacent to the exterior, northwestern corner of the flume, and consisted of a large welded and bolted iron piece. The artifact was a circular, flat-top piece of iron bolted onto the welded flange of a 1.6 feet tall cylinder. An arc of 3.5 feet of the estimated 6.0 feet diameter of the item was visible. The eastern end of the piece did not extend beneath the flume, but rather ended in a finished edge, suggesting that a full circle was not originally produced. The artifact does not closely resemble any published drawings or descriptions of Leffel motive devices or grist processing items. It is possibly a locally produced item installed to enhance the performance of the original Leffel (48 inch) turbine.

The grist mill structure was supported by two large stone piers north of the flume and two other piers along the dam line. All four piers are intact, and appear as seen in a late 1940s photograph of the site (Figure 28).

An additional element of the grist mill was the poured cement drive leading from Young's Mill Road to the grist mill. The road consists of two 1.9 feet wide tracks with 2.6 feet between them. Its present length is 108 feet. The hard road would have allowed loaded wagons or trucks to unload directly at the mill, without the risk of becoming mired in the red clay.

Saw Mill

The saw mill sat above the eastern flume, with an associated building to the north. The flume has apparently been damaged, and there are no internal dividers between the



Figure 30 . Millstone in Grist Mill Flume.

flood gates and the flume exit . The total length of the flume is 40.0 feet, but it is estimated that the actual flume may have been only 26.0 feet long (Figure 31). This length is considerably longer than at the grist mill, and the difference is probably related to the lesser natural fall on the east end of the dam and to a desire to increase the head by increasing the length of the flume.

The saw mill flume apparently contains an entire Leffel Sampson 23 inch turbine. Visible indications of the turbine are the upper portions of the turbine shaft with the horizontal bevel gear in place (Figure 32). The turbine itself is not visible because the present main water flow is through the eastern flume. The horizontal bevel gear is a 60 tooth metal gear, 48 inches in diameter. This gear is meshed with a 32 tooth, 24 inch vertical bevel gear. The vertical gear is attached to a 21.0 feet drive shaft with several belt pulleys attached. The alignment of the two standing piers with shaft rests indicates the the turbine and drive shaft have settled north of their original placement (Figure 33). A counterwheel spindle is present in the western wall of the flume, south of the current turbine position and in line with the shaft rest.

The various piers present on the saw mill side can be interpreted through reference to period pictures of the mill (Figures 34-36). It appears that a mill house or power house was located directly above the flume. A walkway to the north connected the power house with a two story cabin structure, evidenced today by stone piers and a standing stone chimney. The actual sawing area was east of the walkway and power house, and was covered by an open shed (Figure 36). In terms of the present remains, the stone piers are associated with the power house and cabin, while the cement piers apparently supported the walkway and saw shed (Figure 37).

The saw pit or saw seat remains today as a concrete, squarish structure (Figure 38). It exhibits a center point support pier with a 0.5 feet wide by 2.0 feet deep slot. This slot is oriented in the same direction as the blade seen in the photographs (Figures 35 and 36), and was probably the location of the saw.

The cabin mentioned above was apparently not functionally related to the saw mill. Oral history from Mr. Wiley Williams, Mr. Emmett Fling, and Mr. Charles Gibson suggests that this structure was a summer cabin located near the saw mill for scenic reasons. The cabin remains include a corner chimney with upper and lower hearths, and stone support piers.

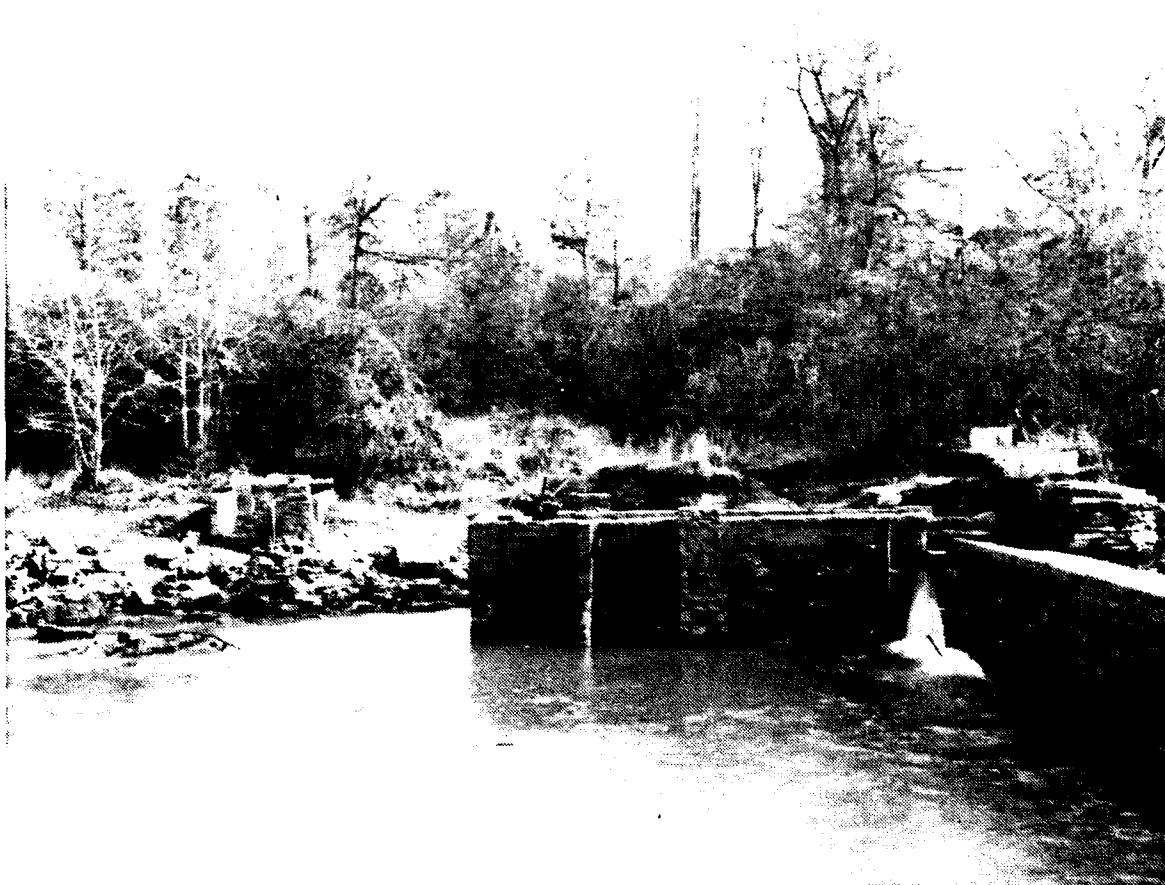


Figure31 . Planar view of East Sluice, view towards East from West Sluice.

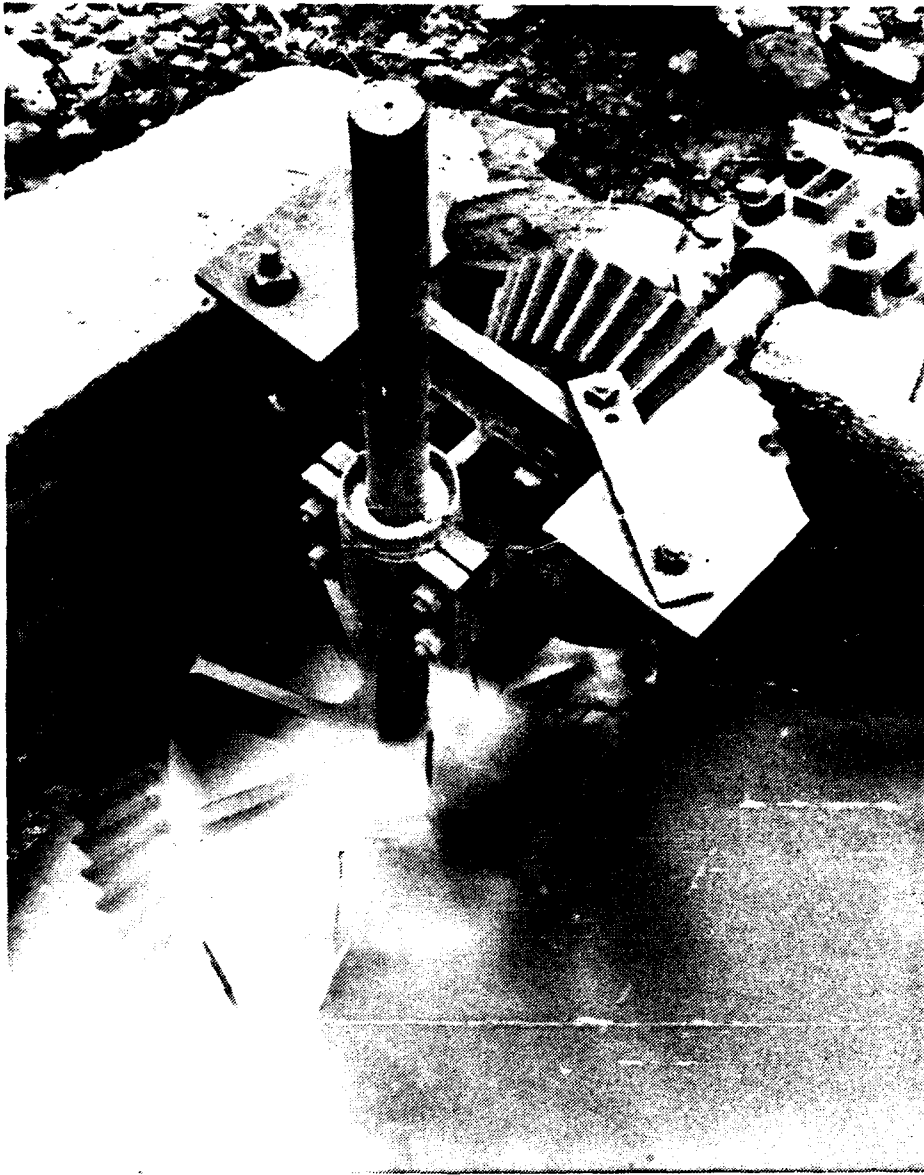


Figure32 . Detail of Bevel Gears on Turbine Shaft,
Saw Mill Flume.

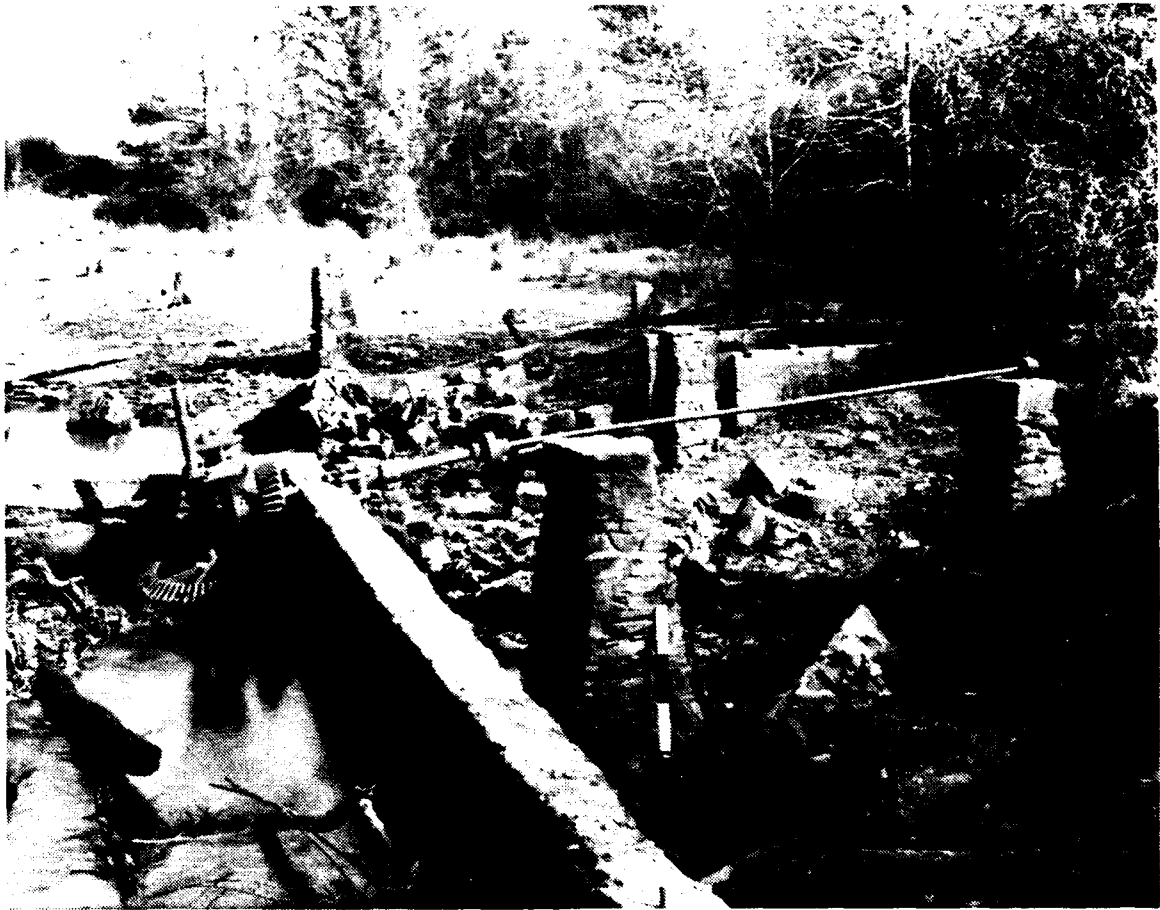


Figure 33 . Oblique View of Saw Mill Flume Showing Extant Machinery, view towards North.



Figure 34 . Young's Mill ca. 1947, Power House at Saw Mill.
Source: Vanishing Georgia Collection.



Figure 35. Young's Mill at Flood Stage, 1948. Saw Mill is on right and cabin is on left. Shed covering saw is visible between the two structures. Source: Mrs. Helen Young.

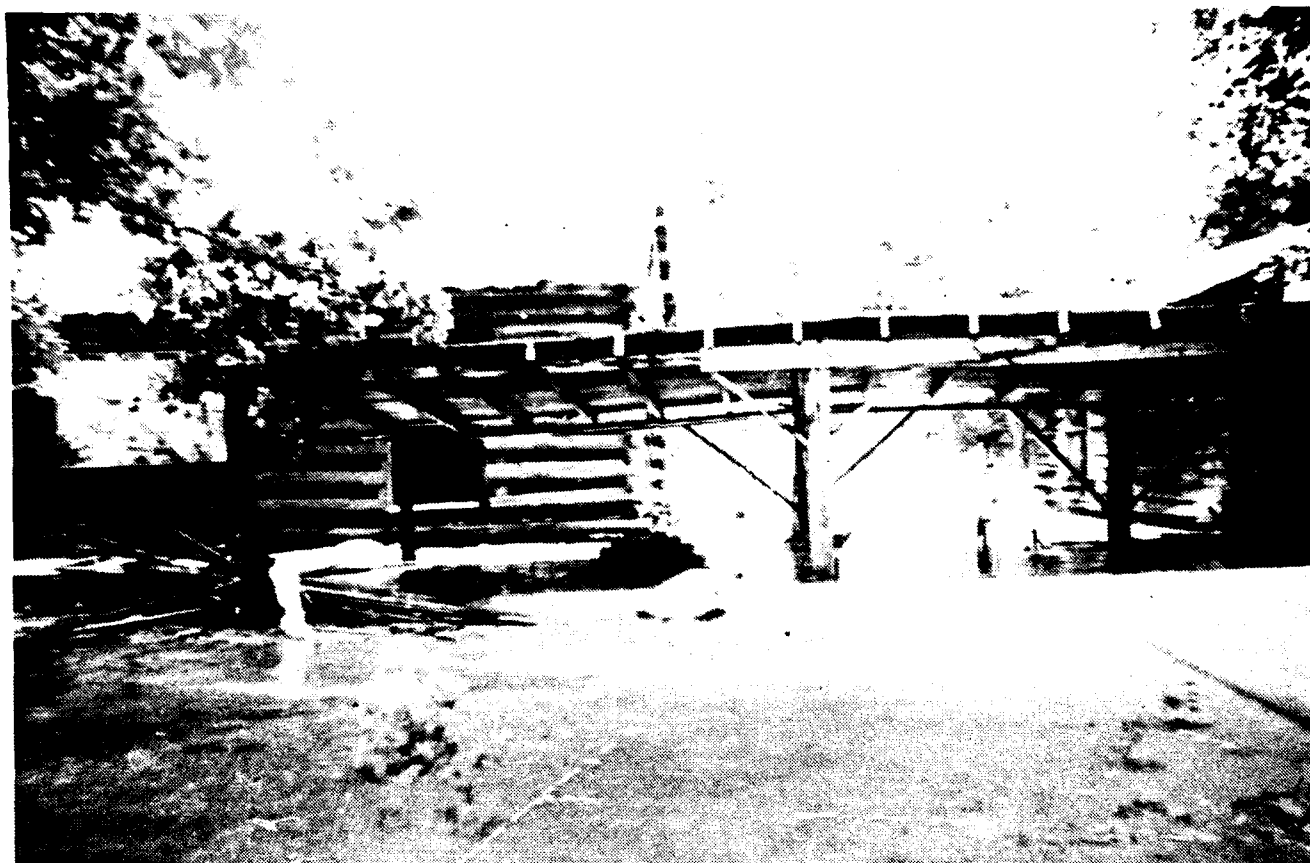


Figure 36 . Young's Mill at Flood Stage, 1948. View from Behind Saw Mill Power House (L), Saw Shed (Center), and Cabin (R). Source: Mrs. Helen Young.



Figure 37. Oblique View of Southside Chimney, Stone and Cement Piers of Cabin Near Saw Mill Pit, View Towards North.



Figure 38 . Oblique View of Saw Pit, Towards Northeast.

Office/Store

The office/store is currently represented by four standing walls lacking a roof (Figure 39). The one room building measures 12 feet by 13 feet 8 inches, and is constructed of coursed granite on the exterior and red brick on the interior. The building is accessed through front and rear arch-top doorways. An interesting construction feature of the office/store is the use of wooden bricks at selected spots on the interior to provide useful anchors. Artifacts associated with the office/store include two large Coke coolers (i.e., drink boxes).

The structure is located on a small platform, maintained in part by a mortared rock wall along the poured concrete drive. The rear door of the office/store exits to the top of a stone staircase, which leads down to the driveway.

Cabin Chimney

A standing chimney is located south of the office/store, just east of Young's Mill Road (Figure 40). The 18 feet tall chimney has a first floor hearth, as well as an additional hearth pipe originating in a basement. The chimney is located at the south end of a 16 feet by 30 feet depression cut into the side slope. The chimney is constructed of coursed field stone with concrete mortar. Two dates were inscribed into the wet mortar: "Feb 24 1922" and "2/24/22." Oral history indicates that this was a log structure inhabited by various employees of the Young family, and was not used as a summer cabin. The unfinished basement reportedly had a hearth, and was utilized by mill customers as a waiting room during cold weather (Wiley Williams: see Appendix A).

Rock Lined Feature

A cultural feature of indeterminate function was located during the topographic mapping south of the eastern retaining wall. The feature measures approximately six by two feet, and is bordered by one to two unmortared courses of field stone. In addition, several strands of barbed wire were covering the feature, and an early twentieth century medicine bottle was present. The dimensions of the feature are suggestive of a grave, but no supporting archival or oral history data were recovered. No subsurface investigations were undertaken.



Figure39 . Oblique View front and south facades of Store/Office,
View Towards Northeast.



Figure40 . Oblique View of Front and West Sides
of Roadside Cabin Chimney, view towards East.

MILL SEAT PARAMETERS

As discussed in Chapter 4, several parameters apparently were considered in selecting a mill seat. The economic factors were addressed in Chapter 5, and this section will focus on natural factors including gradient, flow, substratum, and bank constriction. The data suggest that key parameters in the selection of the Young's mill seat were its exposed rock bottom and significant stream constriction.

Gradient

The Beech Creek gradient was calculated from pre-West Point Lake topographic maps for the section from the confluence with Yellowjacket Creek to ten creek miles upstream. Young's Mill is located at creek mile 3.4, if the confluence is designated creek mile 0.0. Table 9 presents the elevation and gradient data for the eleven mile points and Young's Mill. An examination of these data indicate that the gradient in the Young's Mill section is slightly less than the stream mean.

The above calculations, it should be noted, concern gradient on a coarse scale. In reality, micro-gradient (i.e., the drop encompassed by the dam and flumes) was probably more important in selecting a seat. Because of mill pond silting, it is not possible to determine the original bottom elevation of Beech Creek directly above the dam. However, the similar elevations of the granite outcrop directly beneath the eastern end of the dam and beyond the downstream end of the eastern flume suggest that a significant micro-gradient was not present.

Flow

Reliable data on the Beech Creek flow before West Point Lake are not available, but comparable data from Yellowjacket Creek can be interpolated for Beech Creek. The flow figures (Table 9) reflect the viability of Beech Creek as a mill seat. In order to interpolate the available data to other sections of the creek, the contributing drainage basin in acres was calculated for each creek mile. If other factors (gradient, stream width, stream depth) are relatively constant, flow will vary directly with the area of the drainage basin. The interpolated flow data indicate that while Young's Mill was not at the point of highest flow, it did receive ample flow to drive either a 23 inch or 48 inch turbine (Table 9). The optimal flow would have been realized at a location below the confluence of Shoal Creek, since the Shoal Creek portion of the drainage represents a significant addition to the Beech Creek flow. It must also

Table 9. Mill Seat Selection Factors.

Creek Mile	Stream Rank	ATTRIBUTE			
		Gradient (feet/mi)	Constriction (feet)	Drainage (hectare)	Estimated Avg. Flow
1	5	5.5	1200	20,000+	84.0
2	4	6.0	1400	14,100	59.2
3	4	6.5	1200	13,900	58.4
Mill	4	6.3	500	13,950	58.6
4	4	6.0	1800	13,700	57.5
5	4	6.0	900	13,000	54.6
6	4	7.0	1100	12,500	52.5
7	4	7.0	750	12,300	51.7
8	4	7.5	600	11,400	47.9
9	4	9.0	2000	11,000	46.2
10	4	10.0	400	9,600	40.3

NOTES: Stream rank assigned following the Strahler (1957) method. Gradient calculated as 0.5 times elevation difference between 1.0 mile upstream and 1.0 mile downstream. Constriction measured as distance from bank to bank at elevation 20 feet above stream level. Flow is in cubic feet per second, and is interpolated from 1978-1982 data from Yellowjacket Creek.

be noted that flow is affected by creek width, and the discussion of bank constriction (see below) must also be considered.

Geological Substrata

While mill seats were successfully constructed in areas of clay or silt substrata, the nineteenth century literature and documented mill sites reflect the preference for rock substrata. In addition to providing an impermeable dam base, rock outcrops were often located at natural nick points, where the stream narrowed, stream velocity increased, and natural drop increased (Trimble 1968; Doyon 1983). In the natural evolution of streams and rivers, a downgrading water course would be naturally dammed to some degree by erosion resistant rock outcrops. Such settings would provide naturally advantageous mill seats.

A photograph of Young's saw mill (Figure 34) illustrates that a major rock shelf was present beneath the mill and dam. Bottom soundings confirmed that a rock ledge was present across the entire creek at this point, extending 10 to 20 feet downstream from the dam. In terms of substratum, the Young's Mill seat was well suited for development.

Constriction

The width or constriction of a stream can be important in mill seat selection for two major reasons. First, a relatively narrow section of river is more easily spanned by a dam than a wider area. Secondly, an area of stream constriction results in increased stream velocity and greater head per volume of water. For these reasons, mill seats were often established in constricted areas, or nick points (Trimble 1968; Doyon 1983).

Quadrangle maps were again consulted, and a measure of constriction was defined as the distance from bank to bank at 20 feet above natural stream level. The 20 feet rise was considered the minimal reliable interval which could be interpolated from the USGS maps. Table 9 and Figure 1 illustrate that Young's Mill was located at a significant narrows. Although the constriction was greater at creek mile 10.0, the Young's Mill seat represents the only major constriction on the lower portion of the drainage. The relative short length of the mill dam (83 feet) relative to its height (6.9 to 10.5 feet) confirms the value of a narrows to the mill seat.

DESIGN SELECTION

It has been argued that form follows function, and for water powered mills, function and form are both closely linked to the selected mill seat. Additional factors which enter into the selection of a mill design include the anticipated technological demands, the available technology, and the available materials. In the following discussion, it is argued that Colonel Young was fortunate because his land contained a very satisfactory mill seat, because granite building materials were locally available, and because the competitiveness of the mill machinery market had resulted in readily available technology and consultation. Colonel Young was able to build a mill well designed to meet the moderate anticipated demand of his targeted market.

Technological Demand

From data provided in Chapter 5, it may be suggested that the anticipated demand on the original Young's Mill could be met by four stones (i.e., a two run mill). The required horsepower to turn the stones could have been achieved through a number of methods, but the design also had to allow for the necessary power to be available on a consistent basis during milling seasons. Stream flow and the effect of pondage had to be evaluated to determine the maximum daily draw which could be sustained without depleting the pond below operational levels. These calculations may simply have utilized "horse sense" and the available data base of numerous area mills. Alternatively, Colonel Young could have supplied the Leffel Company (or a competitor) with the pertinent data, and allowed their engineers to suggest the optimal design for the Young's Mill seat and demand. A consistent theme in the Leffel primers and brochures of the nineteenth and twentieth century (see also Montgomery Manufacturing Co., Inc. 1861) was that the important selection of mill design is best undertaken by the company's trained engineers. The company offered to send engineers on field consultations as necessary.

It is likely that the design selection began with the consideration of the dam size feasible and necessary at the mill seat. The seven feet fall/six feet head (eastern end of dam) represents a moderately high dam, and this dam size was common in the western Piedmont of Georgia. Once a dam size was selected, the head and pondage were easily calculated. It was then a simple matter to calculate the sustainable flow in cubic feet per minute. Table 10 delineates a sample of the options available under seven or ten feet of head, with an average stream flow of 58.6 cubic feet per second. It should be noted that Table 10 does not consider the estimated pondage of 2,178,000 cubic feet, and

TABLE 10. Potential of Interpolated Flow For Young's Mill.

	HOURS PER DAY OF MILLING	
	AVERAGE FLOW	MINIMUM FLOW

7 FEET HEAD (SAW MILL)		
10 inch Sampson Turbine	24.0	23.0
23 inch Sampson Turbine	24.0	4.3
48 inch Sampson Turbine	24.0	1.0
74 inch Sampson Turbine	12.5	0.3

10 FEET HEAD (GRIST MILL)		
10 inch Sampson Turbine	24.0	19.0
23 inch Sampson Turbine	24.0	3.6
48 inch Sampson Turbine	24.0	0.8
74 inch Sampson Turbine	10.5	0.0

Note: These are hours per day of milling possible without depleting pondage. Actual hours of potential milling were undoubtedly higher. Calculated from interpolated flow data and Leffel (1883:30-33) Double Turbine Tables. Assumes only one turbine operating at any given time, and that turbine operating at full gate.

therefore the actual hours of operation would have been significantly higher.

The 48 inch turbine originally used in the grist mill represented a conservative selection, in that it would supply ample horsepower, and could be run all day during periods of average flow, and one hour a day at minimum flow without significantly depleting the pondage. The selection of a more powerful (i.e., larger) turbine would have placed the pondage at greater risk or would have forced the mill to be operated fewer hours per day. Once a dam and turbine size had been selected, the mill design probably closely followed the published recommendations of the Leffel Company (1883, 1881, n.d., and the Leffel News).

Locally Available Technology

Technology refers to both the existence of machinery, in this case, and the knowledge to install and utilize that machinery. At the time of the establishment of Young's Mill, the efficiency and reliability of turbine motive power was well established, and such power units were present in the majority of the mills of the western Georgia Piedmont. The turbines were available as mass produced units in a variety of sizes and styles. While some turbines were being produced in small, regional foundries (e.g., Davis Foundry, Rome, Ga.), quality was best assured through purchase from large companies such as Leffel or Reynolds. Shipping times were minimal, and these companies generally had the turbines in stock.

The large companies also offered service support which smaller foundries could not rival. This support included published guidelines on the selection, installation, and operation of machinery, as well as the availability of field engineers to visit proposed mill seats. Mass production guaranteed that a dam and penstocks could be built to specification before the arrival of the turbine, and that the turbine would fit. The guidebooks and newsletters of the Leffel Company and others served not only as excellent advertising, but also provided necessary technological information.

In addition, the guidebooks inevitably included testimonials from satisfied customers from throughout the country, reassuring the potential customer that the turbine really was suited to his particular area. It should be noted that testimonials from LaGrange area millers were included in both the 1883 Leffel Catalog and the 1861 Montgomery Manufacturing Co. (Reuben Rich's) listing. Given the intensity of the advertising claims, it is possible that the various guidebooks, because they were full of scientific proof, testimonials, and challenges to competitors, were a

mixed blessing to the small miller attempting to make a wise decision.

Locally Available Material

While many nineteenth century mills operated with timber dams and penstocks, a much hardier mill facility was possible with rock construction. Rock dams and flumes were not as susceptible to flood damage and general wear as were their wooden counterparts. Leffel (1881:55) argued:

Whatever may be said in favor of other descriptions of dams, whether they be frame, crib, log, pile, earth, brush, or iron dams, it must still be admitted that stone is on many accounts the most suitable material for a barrier against the pressure of water, and one which will naturally be selected where the circumstances do not make it too costly...

Young's Mill is located within an area of granite and granitic gneiss bedrock, and granite quarries have existed in the area since the early nineteenth century. The closest quarry documented by the present research, the Mountville quarry, was situated only 6 miles from Young's Mill (Watson 1902). This quarry or other area quarries were probably able to provide the necessary rough cut granite for the construction of Young's Mill at a reasonable cost. It will be recalled that the 1880 Special Schedule of Manufactures reports a capital investment of \$6,000.00 for Young's Mill, and that the turbine unit cost only \$500.00.

The rock dam designs published in the 1880s were targeted for large industrial complexes. The cost of stone in most areas of the country precluded its use at small mill complexes. Therefore, it is likely that the dam itself did not follow any published plans (cf., Fitz Water Wheel Company 1928:9), but instead represents a locally successful pattern.

MOTIVE POWER

When Young's Mill was established in the 1870s, the prevalent motive power technology was the mixed flow turbine. For example, the 1880 Special Schedule of Manufactures indicates that ten of the thirteen grist/flour mills, four of five grist mills, and three of the five saw mills in Troup County had turbines in place. The relative efficiency of turbines, their availability, their relative ease of installation and operation, and their history of successful application in the region probably precluded the

consideration of any other type of motive power for Young's Mill.

1880s Motive Power

The earliest description of motive power at Young's Mill is included in the 1880 Special Schedule of Manufactures. The Schedule lists the mill as containing one Leffel power unit producing 12 horsepower at 300 revolutions per minute. The height of fall is given as seven feet, and the breadth of wheel as five feet. The wheel breadth must actually have been a measurement of the penstock entrance width, or possibly of the Leffel turbine. The Leffel Company did produce a 61 inch turbine, but such a turbine had an advertised horsepower of 54.0 hp with seven feet of fall (James Leffel & Co. 1883)

It is more likely that the five feet wheel breadth represented the wheel casing width. The casing of a 48 inch Leffel turbine was 60 inches (James Leffel & Co. 1883). Such a turbine would have produced an advertised 21.4 hp on a seven feet fall. It should be noted that the advertised horsepower ratings were rarely achieved in actuality, a fact emphasized by proponents of other water power systems (e.g., Fitz Waterwheel Company 1928:24-26). The Fitz Company literature claims that turbines usually produced 60 percent or less of their advertised capacity; such an efficiency rate would indicate that the 12 hp estimate on the 1880 census may have been accurate.

In the 1883 Leffel Company listing, Young's Mill is described as having a single 48 inch Leffel turbine operating under a 6 feet head (not fall). The mill is described as a flour mill (James Leffel & Co. 1883:136). In the 1880s, Young's Mill apparently was utilizing a single 48 inch, Leffel Improved Double Turbine to run the grist mill. This was an open flume turbine, and recommended flume diameter was 99 to 108 inches, significantly greater than the present flume diameter (72 to 84 inches). This suggests that the flume was indeed damaged and rebuilt in 1911, at which time the flume dimensions were adapted to a smaller turbine size. Alternatively, the 48 inch turbine may not have been productive in a too small flume, and the 23 inch turbine was selected as more appropriate for the flume.

Late Nineteenth and Twentieth Century Motive Power

While the evidence (Leffel Company records, measured drawings of the penstock, oral history) indicates that the grist mill element of Young's Mill used the 48 inch turbine at least through 1880, the saw mill established before 1896 utilized slightly different motive power. Instead of a 48

inch Leffel Improved Double Turbine (as in the grist mill), the saw mill was probably equipped with a single 23 inch Leffel Sampson Upright Turbine, right hand rotation. The saw mill turbine was placed in a 6.0 feet wide flume, very close to the recommended range of 50 to 59 inches (James Leffel & Co. 1883). The flume of the sawmill was built longer than its grist mill counterpart to increase the drop, since the natural fall on the east end of the dam was significantly less than on the west end.

The records of Leffel turbine orders for Young's Mill are somewhat confusing. The first order of a 23 inch turbine was delivered to Young's Mill in 1898. It was replaced by an identical unit after the road construction accident in 1911, and by another similar unit in 1945. Since the sawmill was established by 1896, it is possible that the 1898 turbine was installed in the grist mill at this date. Alternatively, the order date may be erroneous, and the 1898 turbine may have actually been delivered for the sawmill at an earlier date. Regardless, it is highly likely that the 1911 turbine was for the damaged grist mill. The 1945 turbine may also have been for the grist mill, since the sawmill was probably no longer in operation by that date. Whenever the first 23 inch turbine was put in the grist mill, it was installed in a larger than necessary flume.

Flow Regulation

It is likely that two points of flow regulation were present at the grist mill and at the saw mill. The first control mechanism was the wooden flood gates which could be raised or lowered to control flow into the flume. In addition, the Leffel turbines had adjustable intake gates which allowed the turbines to run at different rates and to be shut down completely. The flood gates were probably operated from the dam wings, while the turbine gates were adjusted from within the mills.

Power Transfer

While physical evidence of the power transfer mechanism is absent from the grist mill, it is likely that the grist mill system is similar to that evidenced at the saw mill. A large (60 tooth, 48 inch diameter) metal, horizontal bevel gear is present on the turbine shaft in the eastern flume. This gear meshed with a smaller (32 tooth, 24 inch diameter) vertical gear on the end of a 21 feet drive shaft. The drive shaft sat on at least two shaft rests atop piers. The shaft was stamped "Dodge" on one element, and may be the drive shaft from an early Dodge truck. Two small belt pulleys were present on the shaft, and it is reported that

leather belts were used to drive the saw mill and grist mill (Wiley Williams: Appendix A).

Utilizing Leffel's (1883) estimate of 147 RPM for a 23 inch turbine under 6 feet head (on eastern end of dam), the main horizontal drive shaft would have been spinning at 276 RPM. For comparison, the main shaft at McCosh's Grist Mill had an estimated spin of 146 RPM. For early pitman saws (up and down stroke), a rate of 120 RPM was suggested (Evans 1850), but circular saws like that used at Young's Mill had an optimal rate of 300 to 350 RPM (Henry Disston & Sons 1921).

Nineteenth century saw mills utilized water power minimally to saw the logs, but often also to move the logs to the blade and to roll or maneuver logs to cut four sides (Wigginton 1980; Rutsch and Gimigliano 1979). Although Orser et al. (1987:386) argue that multiple turbines were needed to run a saw mill, single wheel saw mills are common in the nineteenth century literature (Leffel 1883; Montgomery Manufacturing Co. 1861; Evans 1850) and the archaeological record (Rutsch and Gimigliano 1979). It is clear that at Young's Mill, the various saw milling mechanisms were run from a single turbine with multiple belt pulleys on the main horizontal drive shaft. It should be noted that the saw mill was used on a limited basis for producing housing materials for the Young's cabins, and intricate log handling machinery may have never been installed.

GRIST MILL PROCESS

This discussion of the grist mill process is derived from the recollections of Mr. Wiley Williams, miller at Young's Mill from 1931-1937 (see Appendix A). While his experience was limited to the 1930s, the process he described was typical of small grist mills through the late 1800s and early 1900s.

The customers brought unshelled corn to the mill, in lots from 3 to 40 bushels. A corn sheller was located outside the mill on the ground floor, and it was typically operated by the customer. The share (1 peck) was removed from the shelled corn, and the remainder was sent upstairs via a cup-belt. Upstairs, the blower cleaned the corn, removing the chaff and other impurities with forced air. The cleaned corn was then moved to one of two large hoppers above the grindstones. The use of two hoppers assured that each customer's corn remained separate from other corn. The corn was released from the second floor hoppers into the grindstones. The ground meal was swept into a large bin, from which it was manually bagged. Figures 41 and 42



Figure 41. Two Operating Runs of Stone. Nora Mill, Helen, Georgia.

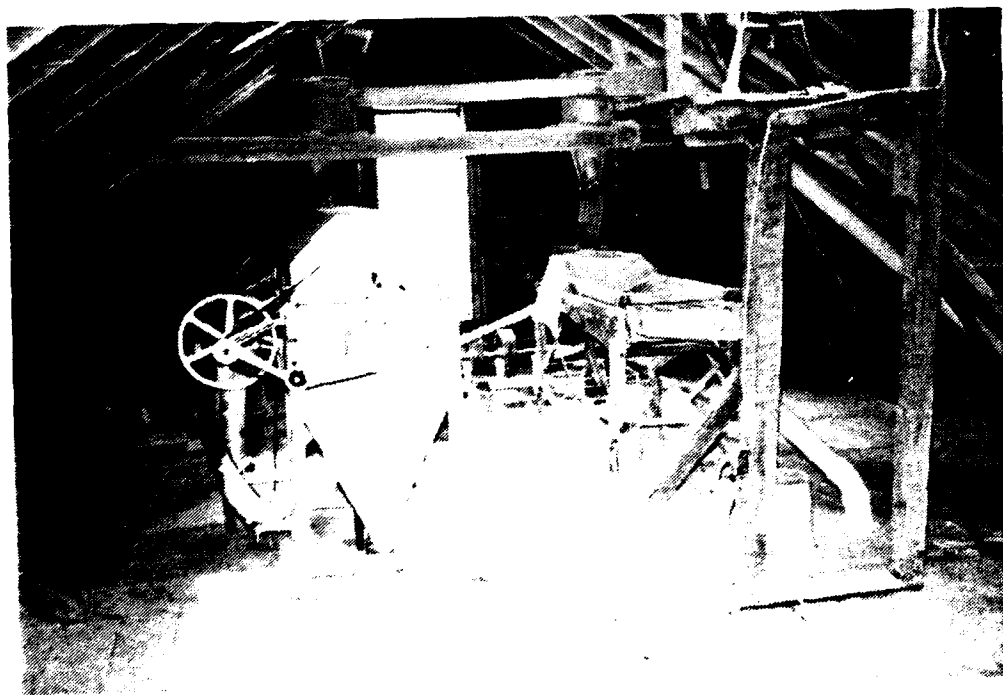


Figure 42. Corn Blowers, Third Floor. Nora Mill, Helen, Georgia.

illustrate similar technology at Nora's Mill (Helen, Georgia).

The turbine was never run full open, and reportedly produced 25 horsepower. Although two pairs (runs) of stone were present, the turbine could only drive one pair at a time. When one pair became dull, the work would shift to the other stones. The dull stone was lifted with an iron crane, and a fresh dress was applied. Mr. Williams learned the art of sharpening the stones through pecking from his father, Mr. Frank Williams.

The mill was often run all day and part of the night during peak demand periods. There was never a problem with low water, although Mr. Williams indicated that the saw mill and grist mill were never run at the same time.

EXPANSION

While initial indications suggested that the addition of the saw mill added greatly to both the profitability and the water demand at Young's Mill, further research revealed that the saw mill operation was seasonal and small, and may have been present from the first establishment of Young's Mill. It must be emphasized that there is no evidence that the saw mill ever represented a commercial endeavour; rather it functioned as a service to a large neo-plantation.

The records of the Leffel Turbine Company (as discussed above) and the mill remains suggest that the Youngs were sufficiently satisfied with their earlier Leffel 48 inch turbine to install similar (but smaller) machinery in the new saw mill. The 23 inch Sampson Upright turbine was installed in a penstock narrower but longer than that of the grist mill. Although it cannot be established conclusively whether this penstock was built in a former flood chute, or if it was constructed from scratch, the dimensions of the sawmill penstock very carefully follow the recommendations of the Leffel literature.

While the energy of the mill pond head apparently remained constant (i.e., there is no evidence that the dam was raised), the demand on the water flow was potentially increased by 130 percent i.e., if both turbines were run at once. The gate systems on both penstocks would have allowed the grist mill, saw mill, both, or neither to be operated at any one time. Seasonal variation in services has been suggested by other researchers (Yates 1980), and such scheduling would have optimized use of the mill seat without reducing the operating efficiency of either element. The oral history conducted for the present project indicated that the saw mill was operated only during slack times for

the grist mill, and that the grist mill was consistently the most important economic element of the complex.

The expansion of the Young's Mill operation to include saw milling did not have major technical ramifications. Engineering necessary for the addition of the saw mill would have required only minor changes in water management. The grist mill probably continued to operate as before, with a slightly increased emphasis on scheduling and predicting service needs.

SPATIAL ORGANIZATION

The spatial organization of the Young's Mill complex represents the well designed use of the existent landscape. The grist mill facility was entered from a major LaGrange access route (Young's Mill road) via a short, poured cement drive. The mill office and possible store was situated at the juncture of the highway and drive, in an ideal location to control the management of the grist mill. A back staircase of rock and cement provided easy foot access from the office to the mill.

The drive, which formerly may have been rock or plank lined, led 108 feet down to the grist mill itself. Given the steep banks in this section, it is likely that unprocessed grain would have been moved laterally (rather than up or down) into the grinding room. The grist mill was located adjacent to the penstock, and power transfer was probably accomplished through short, direct shafts. Wiley Williams (Appendix A) reports that cup-belt mechanisms were present at Young's Mill to move the unprocessed grain or processed meal; cup belts were also present at larger facilities (e.g., Jeane 1979).

Prior to 1896, the saw mill was added to the east end of the mill dam. Unlike the other side of the creek, the east side of the dam abutted a relatively level area which would have been well suited to maneuvering loaded lumber wagons. The spatial arrangement on the saw mill side was apparently more oriented to recreation than intensive use of the saw mill. The stream side cabin, walkway, and observation window in the power house were all tailored to summer visitors, while the saw was placed under a pole shed out back. This organization supports the contention that the saw mill was used only to supply lumber for the owner, and was never utilized on a commercial scale.

SEDIMENTATION

The work of Trimble (1974) on culturally accelerated erosion in the Piedmont was briefly discussed in Chapter 4.

Young's Mill was situated in a region which lost 7.1 to 9.6 inches of topsoil since initial Euro-American settlement. The relative intensity of erosive land use in Troup County went from low in 1810 and earlier, to high/very high in 1860 and 1920 (Trimble 1974). The soils of the Beech Creek drainage basin above Young's Mill are predominately Cecil Clays, considered the most agriculturally productive of area soils (Sweet and Smith 1912). It is quite likely that major expanses of the basin were utilized for cotton agriculture prior to and during the lifespan of the mill.

The Young's Mill seat would have prompted the settling of silt and clay sediments from the stream. The natural narrows and the mill dam would have combined to reduce the stream velocity, and stream flow would have also been reduced when the mill was not operating. A major decrease in stream velocity will result in the loss of waterborne sediments, and major silting will occur. The results of mill pond silting can range from minimal operational impact, to significant reduction of stored water (i.e., potential energy), to forced abandonment. Trimble (1974:119) provides Mauldin's mill dam (Hall County, Georgia) as an example of extreme sediment impact. Mauldin's mill was established in the 1860s, and was silted to inoperability in 1906.

In evaluating the possible impact of sedimentation on the Young's Mill operation, changes in the sedimentation patterns must be considered. The sediment loads of Piedmont rivers have generally decreased since the 1930s as better agricultural methods were utilized. This has resulted in the partial degrading of areas of sediment deposits from the nineteenth and early twentieth centuries.

In contrast, the construction of West Point Lake has created a major velocity decrease in the immediate vicinity of Young's Mill, so that much of the Beech Creek sediment load from the past 13 years has been deposited behind Young's mill dam. During the 1970s and 1980s, soil conservation measures peaked in Troup County, and field rotation, terracing, pasture establishment, and woodland management were responsible for only minimal erosion in comparison with the nineteenth and early twentieth century.

The final consideration of sedimentation is that it clearly was not significant enough during the use span of the mill to disrupt operation. The mill was still operable when milling ceased in 1945. It appears the sedimentation which did occur was either relatively light, or the resulting silt was washed out in major floods, such as the one photographed in 1948 (Figures 43 and 44).

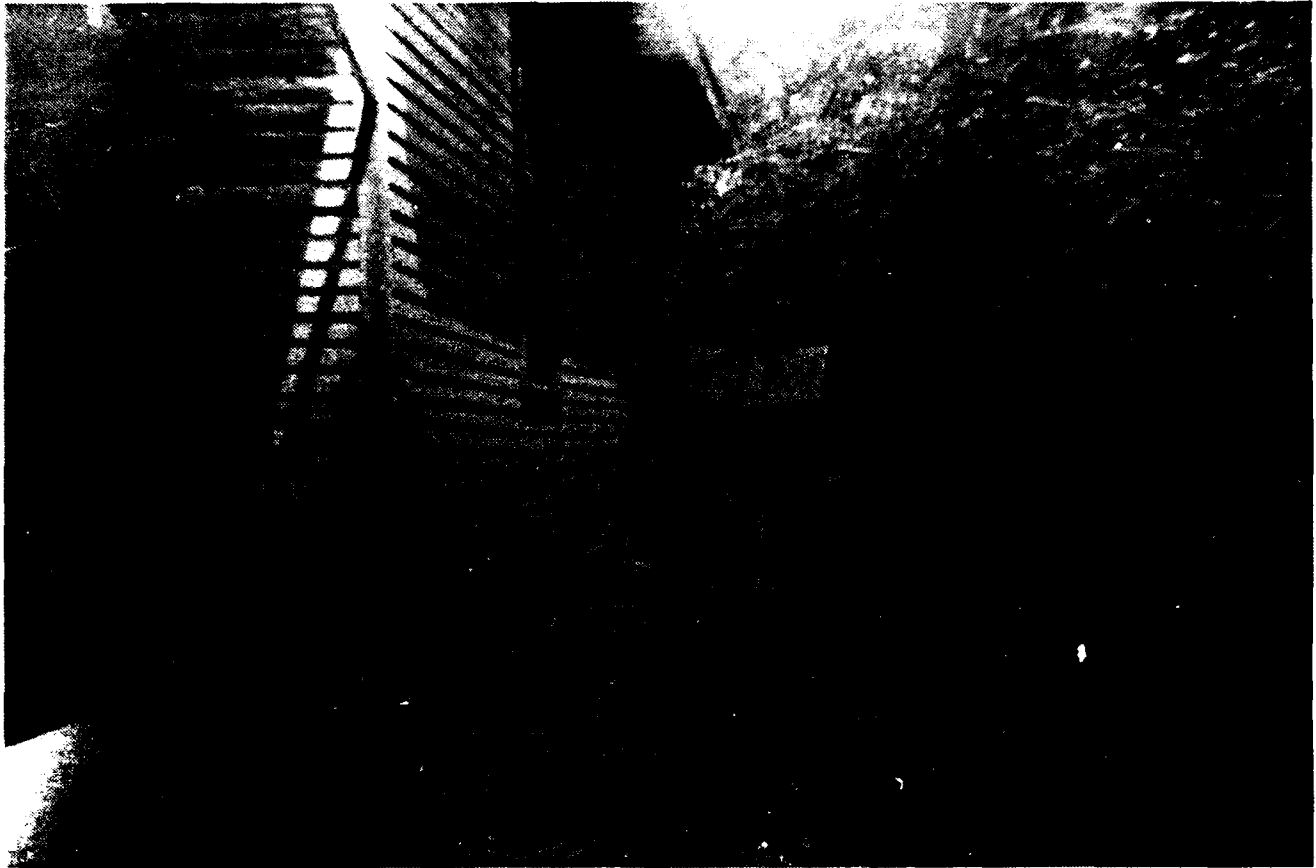


Figure 43 . Young's Mill at Flood Stage, 1948, Looking Past Grist Mill, Across Dam to Saw Mill Power House.
Source: Mrs. Helen Young.



Figure 44 . Young's Mill at Flood Stage, 1948. Saw Mill Power House is on Left, Grist Mill is Obscured on Right. Source: Mrs. Helen Young.

Chapter 7. CONCLUSIONS

ADDRESSING THE RESEARCH QUESTIONS

As was noted in Chapter 2, many of the premises of the research questions were proven invalid during the research. Nonetheless, the best way to interpret the findings of this research is to return to the original questions. In this section, the research questions are addressed individually, while the following section incorporates all the results into a picture of Young's Mill through time.

Economic Questions

1. What were the initial capital outlay, operating costs, productivity, and profit through time of Young's Mill?

The only concrete data discovered on capital outlay, costs, productivity, and profit were from the 1880 Special Schedule of Manufactures. Unfortunately it is unclear whether the figures given under "Capital Invested" (\$6,000 recorded for Susan W.[sic] Young) refer to total capital in the mill operation or capital invested during the census year. It should be noted that the schedule recorded a value of \$21,000 for products produced by Young's Mill during the 1880 census year.

The oral history suggests that the twentieth century operating costs were limited to providing housing, meal, and a minimal salary to the miller and his family. The oral history further suggests that profit was not the sole motive in the continued operation of Young's Mill. It was apparently viewed as a service by Mr. Joe Young and his father, Robert M. Young Jr. The charity of the Youngs during the Hoover days indicates that they were not overly concerned with converting their share into cash. It should be emphasized that the economic resources of the various mill owners were extensive, and that their livelihood in no way depended on the mill.

2. Why was the mill seat selected? What indicators suggest that a grist mill was a viable economic pursuit at the Young's Mill location? How familiar was the builder with local demographic and economic conditions? What was the political affiliation of the mill owner, and how did that possibly affect his economic predictions?

The mill seat was apparently chosen because it represented a technologically/environmentally well-suited

location within the holdings of Robert M. Young Sr. The development of the mill was probably based on the obvious growth in population in and around LaGrange. It should be noted that the earlier Bird Mill may have proven the viability of a mill in this vicinity. As mentioned above, it is not clear that R.M. Young Sr. considered the mill a money-making venture. R.M. Young Jr. was politically active in the area, and probably recognized the need for milling services.

3. What was the targeted market for mill services? Was the owner aware, prior to construction, of a potential customer base? How stable did this market turn out to be, and how was the market affected by broader economic patterns of the state and country?

The targeted market for the mill was probably a number of neo-plantations developing within 5 to 10 miles of the city of LaGrange. Young's Mill could readily service the area north to Harrisonville, and south into LaGrange.

The market appears to have been relatively stable. By staying with a local, waterpowered mill which ground on shares, Young's Mill was able to continue through times of low cash supply in the region. Regardless of the cash value of their share, Young's Mill provided meal for corn. This approach differed from commercial mills and their cash marketing.

Young's Mill continued in operation through the first World War and the Great Depression, but apparently stopped milling during World War II. The economic position of the Youngs allowed the mill to continue when its cash profit was minimal. It must again be noted that the only ongoing costs to the Youngs was the miller's salary.

4. Who were the prime competitors of Young's Mill? What advantage did Young's Mill offer, and did the competitors make efforts to modify services to win customers away from Young's Mill? How did the rates charged by Young's Mill compare with other area mills?

The advantage of Young's Mill was apparently proximity, with few other grist mills serving this portion of the county. In addition, the various Youngs were known as fair men, and the meal produced at Young's Mill was considered special by some. It is not clear how their rates compared.

As the twentieth century progressed, Young's Mill became a novelty as other waterpowered mills closed with the introduction of modern roller mills. However, the more conservative people of Troup County sought out Young's Mill

as the last remaining source of water ground meal. The survival of Young's Mill through the early twentieth century was paradoxically due to its status as the lone survivor.

5. Who developed Young's Mill and what was their source of capital? Was Young's Mill linked with other commercial operations in the area (beyond the mill store)?

Robert M. Young Sr. was the initial developer of Young's Mill, and his capital originated in diverse agricultural real estate holdings. The economic success of the Youngs allowed the mill to operate without pressure to make large profits. Young's Mill was not linked with other commercial operations in the area, excepting that the saw mill provided lumber for the rental cabins and recreation facilities at R.M. Young Jr.'s Lake Lahleet. Even when a cash market was demonstrated for his meal in LaGrange, Mr. Joe Young had no desire to begin commercial operations.

6. What were the economic relations at Young's Mill between owners and workers? If non-family workers were utilized, what form(s) of compensation did they receive? Were workers' houses provided near the mill complex?

The millers at Young's Mill were generally left on their own to run the mill. Robert Young, Jr. and Joe Young both lived near the mill, but apparently did not involve themselves in day-to-day operations. The millers were trusted with cash from sales, and the Youngs had sufficient confidence in their millers to regularly leave the area for several weeks each year.

No Young family members were directly involved in milling, although Robert Young, Jr. apparently would run the saw mill on occasion. Instead, the Youngs selected millers to live near the mill year round, and to do all the milling. Both white and black millers were used, and in two cases the miller's job was passed from father to son. The Youngs paid a competitive salary (for the times), and more importantly provided free housing, firewood, and meal.

7. What system of payment was utilized at Young's Mill? Were transactions strictly cash, or did the miller grind for a share? Were there changes through time, in response to broad economic changes in the region, from one form of payment to another? To what extent was the mill owner involved in extending credit to area farmers, and could this practice have contributed to the closing of the mill?

The major form of payment at Young's Mill was the share. The miller would remove a share (probably one peck per bushel) from the shelled corn, in payment for grinding the remainder of the bushel. Cash transactions were limited to the selling of the meal from the mill's share; this was not an emphasized element of the mill operation. The only temporal change in mill payment/economics was during the Great Depression, when R.M. Young Jr. would give away a peck of meal to any person in need who requested assistance. The archival research did not reveal any instances of the Youngs extending credit to area farmers; because all the milling was done on shares, a credit situation probably never arose at the mill.

8. What was the cost of the 1900 rebuilding and modifications? What economic factors entered into the decision to change from a Leffel style to the turbine system evidenced today? Was the second flume added at the time of dam reconstruction, and what was its targeted market and product? In terms of cost-benefit, were the alterations successful? Was the original mill insured, and how did the settlement (i.e., available capital) enter into the decision-making process?

The cost of the 1911 rebuilding of the grist mill is unknown, although the state or county paid all costs. The second flume apparently had been added prior to 1896, and may have existed from the original time of mill construction. It is unclear if any modifications were made in 1911, although the 48 inch Leffel turbine may have been replaced by a smaller 23 inch turbine. The 23 inch turbine is better suited to the present grist mill flume, and apparently was adequate to run the grist mill.

The reference in Question 8 to a change from Leffel style to turbine was based on a misunderstanding in the first reading of the 1880 Special Schedule of Manufactures. The present data clearly demonstrate that Leffel turbines were utilized throughout the history of Young's Mill.

9. Which economic factors changed to make Young's Mill no longer viable: regional cash flow, cost of operations/maintenance, demand, market for milled products, availability of workers, government requirements, or other economic commitments of the owner? When was West Point Lake first proposed and authorized, and was the mill closed partially in anticipation of the lake development? Were the mill auxiliaries (store and houses) maintained after the mill closed? Where did local growers have to go for a grist mill after the closing, and what hardships did the closing cause?

Joseph L. Young cites government regulations requiring supplements to the corn meal as responsible for the final closing of Young's Mill. Mill activities probably ceased in the early 1960s, after the death of Young's mother, Lottie Guinn Young. A lack of interest by the surviving family may have also been responsible for the cessation of mill operations.

Technological Questions

It should be noted that there inevitably will be some overlap between the economic and technological realms of mill research. The eight technological questions to be addressed during the Young's Mill documentation included:

1. What was the use span of the mill, and what water power technologies were prevalent during this period?

The primary use span of the mill was from the 1870s through the 1940s. By the time of establishment of the mill, turbine technology was well established and dominant in the Georgia Piedmont. The Leffel turbines used at Young's Mill were probably as efficient as any available turbine system.

2. How was the mill seat selected? What natural and cultural factors were considered in site selection? Were access to an established road, proximity to a population aggregate, river width and gradient, and location of other grist mills important in establishing Young's Mill at this location? What role did land ownership patterns have on site selection?

The mill seat was probably selected because it was favorable in terms of: stream flow; stream constriction (major factor); rock ledge across stream (another major factor); and land ownership (mill and pond impoundment were all within Young's land). In addition, the evidence suggests that Young's Mill Road existed before the mill, and served as a focus for a local, linear settlement pattern.

3. How was the Leffel mill design selected, and why was it particularly suited to the chosen mill seat? Was the mill based on earlier grist mills, published plans, or vernacular interpretation unique to Young's Mill? Who actually oversaw construction and design, and where did they gain their prior experience?

The possible reasons for the selection of Leffel turbine technology include: influence of advertising; general reputation of Leffel turbines; knowledge of

successful local use of Leffel turbines; and possibly price. The technology was well suited to the flow and natural drop at Young's Mill.

The design of Young's Mill apparently represents a vernacular interpretation of a generalized model of Georgia Piedmont mills. The extensive use of stone was feasible due to the proximity of granite quarries.

The actual builder of Young's Mill was not verified during this research. Oral history and census data suggests that the builder may have been Albert Haynes, a 31 year old wheelwright living in the LaGrange District in 1870. While Jeane (1974:41) indicates that most mills constructed in rural areas of Georgia during the nineteenth century were built by farmers with little knowledge of mill or dam construction, Young's Mill may have benefitted from the knowledge of a trained machanic.

4. How was the mill changed after its apparent destruction in 1900? Had problems developed with the timber crib dam, such that it needed to be replaced with the present rock and cement dam? What increased efficiency was gained from the switch to the present turbine system?

This question was based on the faulty premise that the Leffel wheel referred to in the 1880 census was a dam style rather than motive power. The present data indicate that stone was the original building material for the dam, and that turbines were used from the beginning at Young's Mill. The only example of gained efficiency may have occurred in the 1911 rebuilding of the mill with the possible replacement of the 48 inch turbine with a 23 inch example. If the flume size remained constant (i.e., was not enlarged in 1911), then the 23 inch turbine was actually more efficient than the larger one.

5. Where did the turbines and other machinery originate? Were they produced to specifications, or was the mill designed around available hardware? Were the turbines and gates salvaged from an earlier mill in the area? To what extent were elements of the nineteenth century mill reutilized in the twentieth century edition?

The motive machinery was ordered directly from the Leffel Company. It was purchased in standard sizes, and the flume was designed around the needs of the turbine. There is no evidence that items were salvaged from earlier mills, although it is likely that a Dodge truck drive shaft was reused to transfer power at the saw mill.

The current interpretations are that the entire saw mill complex and all of the dam survived the explosion of 1911. Apparently only the grist mill and its flume were directly impacted.

6. Was a trained miller brought in to operate the mill, or was it operated by the owning family? If the latter, where did they learn the skills necessary to run a grist mill? Is there a family tradition of milling? How unique was the mill ownership by women? Were the women owners involved in the day to day activities of the mill?

There is no evidence of a prior Young family tradition of milling before Young's Mill. While a trained miller may have initially run Young's Mill, it appears that subsequent millers learned through a very informal apprentice program. It appears that the skills were handed down either within a family (2 instances) or between workers on the Young's farm. The female owners of Young's Mill had little involvement in the running or management of the mill.

7. Was culturally accelerated sedimentation a factor in the demise of the mill? How quickly did the mill pond begin to silt-in, and were any modifications undertaken to alleviate the problem? Was the millpond ever drawn down and excavated?

Culturally accelerated sedimentation never precluded operation of Young's Mill. The dam was not raised to alleviate silting, and the only indication of possible silting problems was Wiley Williams' reference to a biannual releases of the mill pond. These drawdowns were apparently undertaken to repair equipment, and to seine the pond remnant in order to supply a large fish fry. Mr. Williams does not recall the pond ever being excavated.

8. Was the mill significantly modified or refined after construction? Is there any evidence for a diversification of services beyond grist mill processing?

The only possible modification to the mill was the change in turbine size during the rebuilding of the grist mill. It does not appear that the grist mill was significantly modified during its reconstruction.

A diversification of services can be argued from the probable addition of the saw mill in the late nineteenth century. The use of the saw mill, however, suggests that sawing was not offered as a commercial service. It must also be recalled the the 1880 census and oral history suggest that wheat and corn were both processed in the early mill, while the twentieth century mill processed only corn.

YOUNG'S MILL AS A TYPICAL MILL SITE

In many respects Young's Mill was typical of Georgia Piedmont mills. Its turbine technology was common throughout the second half of the nineteenth century, and Leffel machinery was widely used in the state. The mill produced predominately corn meal for a share, and only one run (pair) of stones was utilized at any given time. Young's Mill apparently added a saw mill, fulfilling the expectations of Jeane's (1974) expansion model.

Young's Mill was located on a natural narrows with a rock substratum. Beech Creek was typical of the medium sized streams often utilized for water power. A road was apparently in existence before the mill, providing access to the intended market.

The mill was considered more a service than a profit source. Oral history suggests that the mill was not a big money maker, but did serve a large rural community. The mill required only the miller to operate. In all these respects, Young's Mill was probably typical of the vast majority of Georgia Piedmont mills, excluding those which were developed into factories or textile mills.

YOUNG'S MILL AS A UNIQUE MILL SITE

A few unique attributes of Young's Mill and its history set it apart. The most striking feature is that Young's Mill continued to operate through the 1940s, long after most waterpowered mills had been replaced by steam or electric mills of the roller variety. It is posited that this longevity was due to four factors: (1) the financial condition of the Young family permitted the operation of the less profitable anachronism; (2) the LaGrange community recognized clear taste differences between stone ground and roller processed meal, and preferred stone ground; (3) the Young family possibly maintained the mill for its scenic and historic values; and (4) the neo-plantation system of Troup County was conservative in many aspects of lifeways.

The extensive use of granite for dam, mill, and building construction was unique to areas of the state with local quarries. The nineteenth century literature of water power indicates that stone was preferable when affordable. The degree to which stone was used in non-vital elements of the complex (i.e., store) suggest that aesthetics were also important in selection of stone as a building material.

The use of black millers may also have been contrary to the Piedmont Georgia pattern. The census data suggest that very few black millers were employed in Troup County, and millers in the south are commonly assumed to have been

white. At Young's Mill, at least four of the eight known millers were black. The amount of responsibility given to the millers at Young's Mill is interesting in light of conceptions of white-black relations in the postbellum South.

Finally, the low level of day-to-day involvement by the owners with the mill operations was probably atypical. The Youngs provided the operating capital, but were not directly involved with the milling. This contrasts with the common image of a family owned and operated mill.

EVALUATION OF METHODS

Our assessment of the originally proposed methods for the project is that they worked very well, and that all project goals were achieved. A major necessity for the project from beginning to end was the close coordination of several researchers performing disparate tasks; to meet this need, frequent meetings and project conferences were held involving the site mapper, the historian, the photographer, and the historical architect.

We felt the archival and historical research for the project was exhaustive for all relevant sources and repositories, and that the return on this research effort was excellent. A wealth of contextual and property-specific historic data was available, and these data greatly strengthened the study. We felt we were fortunate to have located useful informants and historical material in possession of local residents. Informant data was particularly important in interpreting many aspects of the history of Young's Mill, and such data potential should be stressed for future projects. We were surprised that one of our informants demanded to be paid a consulting fee before talking; perhaps this contingency should be budgeted for in future projects.

We did not initially plan to investigate other, contemporary mills for comparison with Young's Mill. The need for this became apparent during the research, however, and we attempted to examine and photograph several of the major mill types in the region. This comparative research was not as thorough as we would have liked, and we suggest that future project specifications include this element. The locations of a number of mills in the immediate project region (perhaps several still standing) were recovered during the archival research.

We were very pleased with the methodology for site mapping. The electric transit station worked very well, allowing for increased speed during the mapping, as well as greater precision. The general mapping point interval used

(30 meters) appeared to provide adequate coverage for detailing the topography of the site area. The use of a boat was essential for several mapping tasks.

Measured drawings of the mill features proceeded in an efficient manner. Again, we emphasize the need for close coordination of the architectural work with that of the mapper and the photographer.

Photographic work proceeded largely as planned, except for some weather difficulties. Many days during the project were too bright (direct sun with shadows) or too dark (very cloudy and rainy). Several days were also lost because it was too windy for stable photographic tripod setup. We had anticipated that field photographic work would take much less (calendar) time than it actually did; we did not plan sufficiently for the need for perfect lighting. We feel now that we were fortunate that completion of all of the photographs was not critical to performance of other ongoing project tasks. Potential for less than ideal weather should be anticipated in future projects, as optimum lighting conditions are essential for this work. Schedule pressure on future projects could force photography to be done in less than optimum conditions, degrading the quality of this important aspect of such documentation studies.

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ORAL HISTORY SOURCES

Mr. Emmett Fling

Mr. Fling is the son of Daniel Earl Fling, who was the miller at Young's Mill from 1914 through 1919. Mr. Emmett Fling also visited the mill with his grandparents during summers after his family had moved from the Young's Mill area. Mr. Fling is a resident of LaGrange, Georgia, where he was interviewed for this report. The conversation with Mr. Fling was not recorded.

Mr. 'BoPeep' Scott

Mr. 'BoPeep' Scott was the miller at Young's Mill from 1939 through 1944, and his father (Mr. Gerald Scott) ran the mill from 1936 to 1939. Mr. 'BoPeep' Scott is a resident of LaGrange, Georgia, where he was interviewed. The conversation with Mr. Scott was not recorded.

Mr. Wiley Williams

Mr. Wiley Williams was the miller at Young's Mill from 1931 through 1937. His father, Mr. Frank Williams, ran the mill from 1927 through 1931. Mr. Wiley Williams lives in LaGrange, Georgia, where he was interviewed for this report. A tape recording was produced and transcribed (Appendix A).

Mr. Joseph L. Young

Mr. Young owned the mill from 1959 through 1974. A cassette tape of an interview with Mr. Young was loaned to this project by Mrs. Helen Young. The interviewer was Mr. Don Yates, who in 1980 wrote a paper on Young's Mill for a history course at LaGrange College. A copy of the interview is included with the project records, and a transcript is provided in Appendix A.

Mrs. Helen Young

Mrs. Young is the widow of Joseph L. Young, owner of the mill before the USCOE acquisition. Mrs. Young contributed to the taped interview with Mr. Wiley Williams, and also provided untaped information throughout the project.

APPENDIX A
ORAL HISTORY TRANSCRIPTS

INTRODUCTION. The following interview was transcribed from cassette tape by the Principal Investigator. The interviewers were Chris Espenshade (CE) and Jeff Gardner (JG), and the informant was Mr. Wiley Williams (WW), former miller at Young's Mill. Although he was 79 years old at the time of the interview, Mr. Williams was alert, and his memory appears accurate. Other contributors to be the interview include Mrs. Helen Young (Mrs. Y), widow of Joe Young, and Mrs. Wiley Williams (Mrs. W). Brackets, "[]", are utilized to provide supplementary information, while asterisks, "****", indicate sections in which the recording was inaudible. Question marks in parentheses, "(?)", indicate that the spelling is uncertain.

CE: It's January 24 [1989], and we're with Mr. Wiley Williams of Lagrange, Georgia. He's agreed to talk with us about the way Young's Mill operated, with the understanding that this is all from his memory, and may not be totally accurate, but with the best of his memory, that is what we'll talk about.

JG: Mr. Williams, just to get a little background, when did you start working at the mill?

WW: Well, when I first started working there, it was in the twenties, I guess, right about 1925, when I started. But I wasn't running the mill at that time. It was some white people running it then, at that time, the Freemans, they were running it at that time. I guess, I don't know exactly how long they run it. They run it for something like two or three years. And after that my father, Frank Williams, started running it. And then he run on up until the time that he got disabled, he got sick. Then I take it over in thirties, when he got disabled to run it. And that was, I don't remember, in the early thirties, as near as I can recollect now. Somewhere about .. 1931 or 32, somewhere in there I started.

JG: How old were you then when you started down there?

WW: When I started to run the mill? You mean, when I started to work ...?

JG: I'd kind of like to know when you first started working down there. We can figure out when you started actually running it. When you first started working down there...

WW: I started working down there when I was just a young boy. I started ... I was plowing. I plowed some for the Freemans, and I was about ten years old when I started plowing for them. Then after that, I started to working for

Mr. Young. I did a lot of work for him before I started to run the mill. Of course, he was working out there building that lake over there, that spring. I used to work on that a lot. Help around with that a lot. I guess most anything come to hand, I used to help do it.

JG: That was Mr. Robert Young, is that correct?

WW: Yeah, I think that was his name...

Mrs. Y: Joe's father

WW: Joe's father, that's right. Mr. Robert Young. Well, he was well known here in LaGrange, because he used to be the city judge of LaGrange, many years ago. And as I say, after my father got disabled, around 1931 or 1932, I can't remember just exactly. I started running the mill. And, I run it on up until, I guess, it was maybe about 37, when I left from down there. 1937. That mill, it used to be a great place, because, we used to grind a lot of corn there. Just like people going to a gin house, people stayed there all day long. Come early in the morning, and we'd run that mill all day long. Sometimes I'd have to run it at night, to catch up. And then some people had to come back the next day to finish grinding. We would grind something like about, maybe, 200 bushels a day.

CE: You ground mostly meal. Did you ever do any flour work there too?

WW: No sir, I was told that the first mill... that wasn't the only mill that had been there ...that the first mill, when they were blasting that road through there, they uh, rocks tore it down, knocked it in the creek. Of course, there was a lot of that old machinery left, and Mr. Young sold it to Simon's junkyard down here. But the county, or the state one, built the mill back. They built the mill back free. But that other mill, they tell me they used to grind wheat and corn. But this last mill, they just only made meal.

CE: So they only had one run of stones, or two stones, a pair?

WW: Well, we tried to run two, but didn't have enough power. Mr. Young, Mr. Robert Young, went to Newnan and got another stone. But we didn't have enough power, so we just had to run one at a time. When one rock get dull, we switched it over to the other one. We just had . . . Mr. Young said that turbine was a 25 horsepower, that what it was. So we couldn't run but one mill at a time. That's what it was. I used to grind meal for people from all over Troup County, Meriwhether, a lot of them come clean from Alabama, and just everywhere you could imagine. I mean,

around. People used to just come. From the time in the fall of the year, people'd start gathering corn up on into Christmas, and all through the winter, that's all I did, run that mill. If I stopped for a few minutes and went up to the house, I had ... I used to live right up on that bank, above the mill, there used to be a house up there. They had a piece of iron down there what they mounted, and you could hear it for miles. And that's when I know somebody was down there, and I'd come back.

CE: Did you dress the stones ... ?

WW: Yes, when the stones got slick, we had a big old crane there. We'd hook it up to that crane and we'd turn the rock over and we'd peck it. That'd make it rough so it would cut the corn. And that's what we called sharpening the rock. That's what we called it. And we'd turn it back over and go back to grinding again.

CE: Was that something you learned from your father?

WW: Yes sir, I learned that from my father. He used to do that a lot. I learned that from him. I learned a lot from that mill there. I learned how to improve their cleaning process. They had a blower upstairs that would suck that chaff and other stuff ... clean the corn. In other words, clean the corn. And it wasn't running fast enough, and I changed it. Put on another pulley, and that run it faster. I done that when Mr. Young went to Missouri. They had a place out there in Missouri, and they'd go out there twice a year. They'd go out there every spring, that's when they done the planting. They had a big wheat farm out there. Then they'd back in the fall at harvest time. And they'd be gone something like a month at a time, sometimes 5 or 6 weeks. And during that time, I invented a looking glass up over the hopper where you could see when the corn got out, and you used to have to climb up there and look over, but I could stand on the floor and look up there. I could tell when the corn out, and then I'd let the other corn in for the other customer. When he come back he was very pleased about it. He said "If I'd of stayed off longer, ain't no telling what you would have invented."

Mighty good fellow to work for, I mean, friendly and all. You could go up to him. I used to sell a lot of meal while he was gone. I just kept the money until he come back.

CE: So he'd work by a share, and then sell his share?

WW: No sir, I didn't ... he just payed me so much a day. You know, wages was real cheap then, real cheap. In other words, *****, wasn't charging us no rent, nothing like that. We didn't have no electric lights out there then, but he didn't charge us no rent for the house or for the wood we

burnt. The meal, of the course the meal was free. Like that.

CE: Did you work at the saw mill also?

WW: The saw mill he had out there?

CE: Yes sir.

WW: Well, yes, I used to help out there, you know. It was run by that water, and it was just a slow process. We used to saw enough wood to board up a few houses around there. I mean it served for him. But when you was running that, the mill wasn't running, when you run the saw mill.

JG: So people didn't come to the sawmill like they did to the ...?

WW: Oh, no sir. He just used that saw mill only for himself. He used to have a lot of camp buildings, about 4 or 5, camp houses, over on the other side of the creek from here. They used to have some big times over there. People used to come out from town, rent them houses in the summer. They had a place up above it, up from the camp houses, that was a dancehall. Used to have big dances out there, bands used to come out there from town and play, back in there. People would dance. Had a big time out there.

That lasted ... them camp houses ... a thunderstorm there one summer, somebody got hit by lightning over there. It didn't kill nobody, but it hit somebody. And I think that sort of broke up people staying in those houses over there. Because a lot of them nailed to the trees, and it struck one of them pine trees. Somebody got hit by lightning up there.

JG: Do you remember about when that was?

WW: Like I say, I don't know just exactly, it somewhere back in the twenties, I would say around about .. might have been 28 or 29.

JG: Going back to Mr. Young. Did he spend much time at the mill itself, or basically you just kind of ran things?

WW: He didn't spend no time at all at the mill. I run that by myself. He didn't spend no time at the mill. Now, he ... after he built that swimming pool over there, sometimes you could find him over there. People used to go swimming, you know. He charge them so much to go swimming over there. And then he had another lake above the swimming place, and it was a catfish lake. I have seen him up there many a times; he'd sit up there with a shotgun and kill snakes. There was a pile of snakes in there. And every time one would come up, he'd knock... he'd shoot it.

I've seen him, he used to feed those fish. Get this stale light bread, and he'd drop it in there and those fish would just wiggle like maggots. That's been a long time ago, though. Long time ago. It used to be a great place out there. Great place.

That dam used to be higher than it is now. They blasted off.

CE: Was it higher rock, or did it have flashboards?

WW: It was built up higher. But the engineers, they blasted that off. I reckon the government got

I used to have to go down in the turbine and clean it out. Remove any sticks or things get in, wash in there from up the creek. I'd have to ... a place on the low side with a door you go down there and take off. Just about as wide as the screen on that television [24" diagonal]. I just could get one shoulder in there at a time, and go in there and clean out them old ... had like, buckets, like, that's what turned that turbine in there. And I cleaned it out and come out through that door. Come back, and it would be just like brand new.

One day I went in there, the old gates above there, the water gates done got old. Young had warned my dad about letting me go in there to clean it out. He didn't pay much attention. And I went in there one day to clean that thing out, and the water broke loose on me. And that thing filled clean up to the top. And that water was so stout, it pushed one of my feets out the door. And this man, this fellow that'd come to the mill, and he was waiting 'til I get it cleaned out, and he happened to be there, and he just jumped in the creek down below there -- the water wasn't about knee deep -- and he grabbed me by the knees and he snatched me out of there. That water so strong coming out of there, it knocked me and him both about as far from here to that wall [about 15 feet] down the creek. He saved me, hanging out of there. That thing done filled up to the top. I never will forget that. My daddy he was on the other side of the creek, helping them at the sawmill I think, and he was hollering, Mr. Young was hollering, and I had a time, let me tell you that. I liked to have been gone.

JG: You were awful lucky. You were lucky to have that guy...

WW: I know, I was lucky. His name is Sam Winneby, but he's dead and gone. I used to know all his people, they all dead and gone. That's the truth.

Had some good times out there and some bad times. Was mostly good times. Cause I was young, I was young at that time.

JG: Now when you were working out there, when you were running the mill, was there anyone else helping out there or were you pretty much doing it on your own?

WW: I was running the mill on my own. There was some more people living out there, plantation where we worked at. I run the mill alone. It was just one person, really.

JG: It didn't take any more than just one person?

WW: Didn't take any more than one person, cause we had a corn sheller there, and people coming to the mill would come with corn unshelled, and we'd show them how to run that sheller, you know. I'd be doing the other part myself. I'd be grinding meal, just like people asked me. Depend on how they like it. Some like it fine, some like it coarse. And that's what I done.

People just went wild about that meal. Just come from every which way. There were 2 or 3 plantations, people used to bring it by loads, some bring 30 to 40 bushels at a time. You know, one person. From everywhere. Sometime I'd run all day long, couldn't catch up. And I'd go down there, sometime me and my wife would go down there, I'd run it 'til one o'clock at night. Get up the next morning, and start right back. Run it all day long.

CE: You never had a problem with the water getting too low?

WW: No sir.

CE: The creek ran pretty good?

WW: Ran good. Surely did. Never did have any problems.

JG: You said you were grinding pretty much from the fall, when they were bringing the corn in, through wintertime. Did you do much grinding in the spring or the summer? What did you do during that time?

WW: Kind of slowed down. It did kind of slow down in the summer. But you know, people'd come along every now and then. Like I said, if I'd be over by the house or somewhere doing something else, that didn't have nothing to do but hit that -- we called it a gong -- you could hear that sound from here to town. I come running cause I know somebody was down there.

But now, this time of year ... was a log cabin there, people used to live in it. It had a basement like, up under there,

were people used to make a fire in the wintertime when they come to the mill. Make a fire, while I'm grinding corn, people would go there around that fire. Until their time come, then they'd come in there.

CE: That would be ... that cabin's kind of on the hill up above the grist mill there?

WW: Yes sir, yes sir. It was right there on the bank, but it's done tore down now. I think it is ... yes it's gone now. That's been 35 years.

Ms. Young's chauffeur, Mr. Albert Morris [or Moore], he used to live there. Old log cabin, had about two rooms to it. It had a basement like under there, it wasn't set up in there, it was just open. It had a fireplace down in there, cause it had a chimney to it. That's where people used to go in there to the fire.

JG: Was that cabin kind of built into the bank there next to the road?

WW: That's right. Right into the bank by the road.

CE: I think the chimney might still be out there.

WW: I think it is.

CE: We have a chimney with a regular hearth, and then down below it's like it had a second little hearth that would have been in the basement.

WW: Yes sir, that's right. That's where it is. That's where it is.

JG: While we're talking about buildings up there, there is another building that's still partly standing. It's all stone and it's got brick on the inside. What was that ...?

WW: That was right there. He did build that for kind of an office. What he did was, he was going to run a little stand there, a little store. I don't remember him putting anything in there, not while I stayed there. He could have done it after I left. That's what he built it for. To run a little stand or a store there. I don't think he ever put anything in there.

JG: You were down there when he built that?

WW: Yes sir, sure was.

CE: Do you have any idea where he got that ... did he get the granite locally, the stone for the dam and for some of the buildings up there?

WW: Stone for the dam?

CE: Yes sir.

WW: No sir, that was before my time too. Now, I suppose ... that's what I heard them say. The mill was there way back in the eighties, 1980s [1880s]. I really don't know whether it was there in slavery time or not, but if it wasn't, it was shortly after slavery. I used to hear my father speak about a man he knowed who used to run it way, many years ago. Carl Hackney (?), Hackner (?), a great big old man, weighed about 300 pounds. I think he stayed up there, used to be a house up there right this side, on the other side of the brick building we used to call the "big house." It was made of wood, they say that house been there since slavery time. It had an upstairs to it. And we used to live there. We lived there many years after Mr. Young had moved out of it. They have tore that house down. It was a big house, had about 7 or 8 rooms, upstairs and down.

JG: That's where that big brick house is now, right?

WW: It would be right below that brick house.

Mrs. Y: You know where that kitchen is? Well, it had a dog trot from the big house --the weatherboard house, you know-- into the kitchen. They didn't cook in the ... I mean, they only cooked in the kitchen.

WW: It's still standing there?

Mrs. Y: Yes.

JG: The kitchen, I think, the kitchen is still there, the building is.

WW: Well they say that they used to cook in there in slavery times.

CE: To go back to the grist mill, was that leather belts, is that how they were driving everything? How did the power get from the turbine, from the drive shaft ...?

WW: Leather belts. Long leather belts.

CE: Was there any kind ... Some of these old mills had, I guess they called them elevators, had little scoops on leather belts, to take the grain up to the second story. Did you have anything like that?

WW: Yes sir. We had a hopper where you first put the corn in. After you shell it. Then it go on the belt, the belt with cups on it, and went upstairs to another hopper. Just like I said, we had a processor up there pulling back all

that chaff and stuff from the corn, had a big fan up there. Fed in another big hooper there, and it was right up over the mill. And when corn got out of this hopper, I just had a lever I pulled, and that let it out of the hopper upstairs into this other hopper. I could look through that looking glass and tell when it was time to let it out. I had a big old box there, about that wide [3 feet] where you scoop up the meal after it's *****. You get this hand and swept the meal up, and sack it in...

CE: There's a piece of machinery down there, big huge round thing. To me it looks like part of a boiler or something, about 6 ft around, probably, and about that deep (1 foot), was that part of the machinery?

WW: Down there in that water?

CE: Yes sir, it's down by the flume.

WW: I'm satisfied that must have been that turbine. Cause the turbine about six feet wide. It was round. The stave come up through the top, and it come on up in the mill. It had another part to it that went on up to the dam, that was round like that. Up against that pylon, and the water come through that part and hit that big turbine. I guess it's still there. Down in the water.

CE: So that would force the water into the turbine, you think?

WW: It come off of that dam, and the water got in those pockets. It was up off the water, and the water going through them pockets started that to turning. Mr. Young always said it was 25 horsepower.

CE: Did you always run it full open, or did you ever run, like, half-gate or something?

WW: I didn't hardly pull it wide open, cause as far as running wide open You know if it was wide open, you know it was running faster than you want. I just had a certain degree I'd pull it ... if that thing turned loose, it'd sure enough run fast. I used to run it, I imagine, a little faster than my father. I imagine, you know, I had a little better nerve than he had. I soon caught on to it. Everybody said that I made better meal than he did. Seems like people just went wild for it. Couldn't hardly keep up with it, this time of year, like I said. All this time of year, it was crowded. All this time.

CE: Did Mr. Young ever sell any meal commercially?

JG: Like to stores or anything like that?

WW: I sold some meal ...

Mrs. Y: Joe used to deliver meal, 10 pounds per customer. On his bicycle.

WW: Probably he ... he might have done that after I left. I used to sell a lot though. People come ... Mr. Young, he was a freehearted person, back in them days, them Hoover days, he used to give away a lot of meal. People just didn't have no job or had a family, and didn't have nothing. Gave away a lot of meal. Most anybody come around and tell him their situation, and they didn't have nothing, he'd give them a peck of meal.

I remember one day, down there, a lady come down there, she was living back up that road there somewhere. She said she had 4 or 5 children, husband was out of a job. That was back in the Hoover days, so you all don't know about that. Hoover was President, and times were bad. Couldn't get no jobs, didn't have no money. Nothing. She asked could I give a peck of meal. I told her it's Mr. Young's mill, and I'm just doing it for Mr. Young. I said I'll go up there and ask him. He was up there on the porch; it was summertime. He was laid back, about half asleep, and I told him, I said "Mr. Young, there's a lady down there says she got a big family, her husband's out of work, and she wants some meal." ***** looks up, and says "Alright, is she good looking?" I said, "Yes sir, she's alright." He said, "Alright, give her a peck." I went back and give to her.

JG: What did you or Mr. Young normally charge for somebody to come and grind there? Was it a share...?

WW: Yes sir, I used to take a peck ... that was all, a peck out of a bushel. Take that out of a bushel of corn, a peck.

JG: So he'd take the corn before it was ground?

WW: Yes sir, I'd take that out of the corn. Had a big old hopper. Throw that corn in a big old ... bin. I would take that out of *** everything I'd grind. Had a round thing, hold a peck. That's about two gallons.

[end of side one]

CE: How many other grist mills were there in the area? Were there a lot of other grist mills in the area?

WW: Yes sir, at that time a lot of mills was around, but that was the only water ground mill. You know, there a lot of difference between a water ground mill and ... steam ... and all these other mills gasoline or ... engine pulled ... something like that. ***** little old mills. This man, used to come up there, and he was the one I was telling

you all about, and he'd have anywhere from 35 to 40 bushels at a time. He sent with this old colored fellow, he had a T-model Ford. He'd load it down. That was a man they called Haz Lumpkin. He's from Harrisonville. Do you know where Harrisonville is? That old place used to be, I think, three or four stores there at that time. And he used to sell that whole community around there meal, Mr. Haz Lumpkin. So, he used to send this old colored man down there. Had an old T-model Ford. He'd bring anywhere from 30 to 40 bushels at a time.

Another man from around there, Mr. Freeman, he had a plantation. He used to bring 30 to 40 bushels at a time. There were lots of people around that had plantations, used to bring it in in loads, you know. And sometimes, other people bring 3 or 4 bushels at a time, like that. A few bushels, 3 or 4 bushels. The reason we got to do so much, so many people was raising corn then, everywhere. So many people farming, is what I'm trying to say. And they had these plantations, and they'd send anywhere from 30 to 40 bushels at a time.

JG: Was there any particular day of the week, when things were really running, was there any particular day of the week when people came, or was it just every day?

WW: Well, this time of the year it was just mostly every day. Now, long about in the month of December, before Christmas, there was a lot of people used to come. Grind up their meal for Christmas, I reckon. But a lot of people brought meal down and had it ground and carried it back to the stores and sold it. A lot of people in town used to bring meal out there. People'd rather have water ground meal than these other meals.

JG: What was the difference in water ground? Was it in taste?

WW: It's in the taste, I can tell you. Most of these mills run by these engines I reckon run faster. Don't have the same speed as the water ground mills. It just naturally tastes better. The meal tastes sweeter. You can't buy no meal like the meal I used to make around there.

JG: When these folks would bring their corn out to be ground and take it back to stores, did people know it was from Young's Mill?

WW: Yes sir...

JG: Did they tell folks that it was...?

WW: They could tell the difference. They could tell from the label on there.

JG: That's what I was wondering, was there a label that said "Young's Mill" on it? Did you have a label on a bag that said "Young's Mill?"

WW: No sir. We didn't advertise.

JG: Mostly just word of mouth?

WW: The meal advertise itself. They could tell the difference.

JG: They'd find out where it came from and then come back?

WW: And they'd always come back. That's the truth. More and more of them come. I know a lot of people, I did know -- they're dead and gone today -- a lot of people around Harrisonville ***** I don't think there's but one store up there now.

JG: It's kind of just a crossroads up there now.

WW: That's right. Just a crossroads. Clean on up to Carrollton they used to come from all up in there.

JG: Could we kind of go back and talk a little bit more about the buildings that were down there? We talked a little bit about the grist mill, could you kind of describe to us what it looked like, the building itself?

WW: Now, it was just a plain square building. It had two doors. We never did use but one. It was just a plain building, something like this here [WW sketched the building at this point]

JG: Just a square building?

WW: Yes...

JG: Made out of wood?

WW: Yes sir, a wood building...

JG: A wood frame building?

WW: It had two stories, you see, but there wasn't no mill upstairs. This is the bottom of it. That was a door, and there was a door. Both the doors were on the bottom.

JG: And those were on the side, the bank where the creek was? Those were on the bank side?

WW: No sir, it was sitting down in the bank. I mean, in the creek. There was a platform, up there where you'd drive up to. And the mill sit right over the creek. Had some big

pillars, big pillars out in the water. Two windows upstairs, like that. And this thing that run the mill ... the dam. You know where the dam at?

JG: Right.

WW: This, like I draw the dam, this thing here, ran out to the mill, and the turbine sit about in the middle, like that, you see. To run the mill. But this, this thing here, run up to the dam, and the water run in there. And the dam, that dam was higher. I can't...

JG: Chris has a drawing here of what they've done out there already. I'm not sure whether you'll recognize any of this stuff, because it's obviously after the buildings are gone out there.

CE: [showing preliminary site plan map] The creek's flowing this way, and this is the dam with the steps going down the back there. This doesn't have the cement driveway coming down there. It would come to right about here, I think. These are two big piers it was sitting on. This is the flume, and I assume the turbine would have been about in the center.

WW: That's right.

CE: There's an old millstone out there now. I guess when it burned it caved in.

WW: That's right.

CE: The flood gate, or the main control gate. Then the other side. The flume on the other side was a lot longer.

JG: On the sawmill side.

CE: Was that because the drop was less over here, do you know? I know the natural rock, the natural bedrock is a little higher on that side. The turbine's still down in there, you can see the big old gears...

WW: That's on the other side?

CE: Right.

WW: Over at the sawmill. That's right, yes.

CE: Then, the only other thing standing up out there is right in this area, a kind of triangular chimney, which I guess was a house, or a building, right next to the saw mill.

JG: Do you know anything about that building? There's a big, tall chimney. I have a photograph of it. Maybe that will help a little bit, if I can find it here. We have some photographs that were taken out there recently. [shows photos] This is a picture, the one on the top here, the grist mill is over on the left here, and there's the dam running across, and this is the flume that was underneath or next to the saw mill. Here's the piers the saw mill was sitting up on top of.

There's a picture here showing the big chimney that sat ... it was right down in the creek. There was a building where that chimney was. Now that's right next to what we were calling the saw mill.

WW: Right. Next to the saw mill?

JG: Do you remember that building at all? It's a chimney that would have been in the corner of a building. A fireplace like right in the corner of a building.

CE: It has an upper and a lower hearth. It has two hearths in there.

WW: I think now ... I don't remember that, I believe.

JG: This is a picture that was taken quite a few years ago of the saw mill. Do you recognize that?

WW: Right there.

JG: There's the dam.

WW: That's right, that's right.

JG: Now, the flume that we've been talking about is right up underneath there, and the turbine was down underneath here. This opening in the side, do you remember that?

WW: Yeah, I remember that.

JG: What was that for? Why was there a big opening in the side of that building?

WW: That building, the one right there?

JG: Right.

WW: Well, I don't know for what reason it was, but I can remember that old building sitting there.

JG: It was made of log...?

WW: I believe that chimney...

JG: The chimney would have been over here. It would have been off this particular picture.

WW: The chimney would have been from that place there?

JG: Right. Right. The building, you can sort of see the edge of it right here...

WW: It must have had another house there at that time. As I say, he had 3 or 4 houses over there, where people used to camp. Over there on that side. It used to be a little house out there next to the bridge. I think it tore down now. It was like a little office. A little storehouse where he used to sell drinks, and everything like that.

JG: It's this building ... [finding photo] ... that one right there? Do you recognize that? Right next to the road.

WW: Right next to the road?

JG: Now the roof is gone. It's a stone building. A little arch doorway...

WW: I do...

JG: That's what we were talking about earlier, where Mr. Young ... building that to use as an office.

WW: That's right.

JG: We don't have any other pictures.

CE: When we were doing a map out there, we came across a thing. Let's see, it was on the saw mill side, up here above this little retaining wall...

WW: That's right.

CE: It's back in the woods, and I'm afraid it might be a grave. Did you ever know of, did you ever hear of anybody being buried out there? It was stone lined . . .

WW: On the side where the saw mill was?

CE: Yes sir. It would have been, probably, right about out here. On the flats. About right next to the retaining wall. It's stone lined, and it's about 6 ft long and 2 ft wide. Had some barb wire, a few strands of barbed wire, laid over the top of it.

WW: I don't know what that could've been. I remember, there was a fellow got drowned, that could've been in that corner. There's one place up there, they measured, used to

be fifteen feet deep. I don't have any idea if they buried him out there. I guess they brought him to town and buried him. Him and another person got drowned out there. The water was up. He and some more boys, other boys in there, he was having a bet that he could swim up to the dam. And that water was awful swift, when that creek up, you know. And this boy here, going to stand up on the dam and pull him up there. And he got up on that dam and the water just swept him off in there like that. Drowned him, you know. His father was out there. I think *** was carrying out there then, people was hooping and hollering. They found his body, done washed against one of them piers. Water swept him off of that. He could've hit a rock there, I don't know. He drowned. That was the only people I ever knowed to drown out there. Anything happen to them, then I was out there.

JG: We've also got some other pictures that were taken in 19... 48, I think. They were taken during a flood. Do you remember there being any floods out there? Things being washed away?

WW: I don't remember any floods out there. [looking at photos] That water was way up.

JG: These were taken in 1948. Now that's a picture of the mill looking across. Now, the dams completely under water there, and that's the saw mill over on the other side there.

WW: The water's up.

JG: Did the water get up that high very often?

WW: No. No.

JG: Not that high?

WW: No, no sir. It'd have to rain a long time for that water to get up like that. Rain a long time.

JG: This is another picture looking across the creek. That's the building were talking about, with the chimney. Do you remember that at all? It looks like a cabin, maybe a one room cabin.

WW: He had 3 or 4 cabins over there.

JG: So he might have built that just as one of those vacation cabins?

WW: I know so, cause he'd rent them out to a lot of people. They stayed over then until got hit by lightning. That's what broke that up.

JG: After that, not too many people stayed out there?

WW: No. Lightning struck a pine tree. He had those cabins built on to those trees. Lightning struck that tree, somebody was standing close by. ***** I know when I used to come to town to get Mr. Young before he got a car. Come to town, he had a one-horse wagon. A mule. Come to town and get him. He get his ice, his stuff, 2 or 3 cases of drinks, and head out there. That'd be like on a Sunday morning. He'd be running that swimming pool. After that he got him a T-model. Then he went on to an A-model. When I left there he had that A-model. He give me that old T-model. I had bought me an old T-model, 19..., well his was 1929. Mine was a little later than that. When he give me that old T-model he had, I'd taken the motor and put it in mine. I taken the tires he give me and put them on mine. I didn't have no good tires. I did some real traveling in that car, Atlanta ... everywhere. It would run through ... it was a good one cause ... it wasn't long since he had that motor reworked.

JG: Can I ask, when ... I know you quit working down there in, say, the 30s...

WW: Yes sir. It would have been in the 30s, because my son in there he was born out there, and he's 55 years old his next birthday. 56. He's born in April 1933. I had another son born about two years difference his age and this boy here. I stayed on there about 12 more months, so that would have been ... I left about...I left about 36 or 37. About 37.

JG: 1937?

WW: Yes sir.

JG. Now, who ... do you know who ran the mill after that? Who ran the mill after you left?

WW: Gerald Scott. He was living there. He had quite a few children. I don't know how long. But he'd taken over after I left. Gerald Scott. He got ... I think all his kids dead, except Mary. [to Mrs. Young] You know Mary Scott?

Mrs. Y: Yeah. Mary. They lived across from our driveway that went to the log house. Joe said they had a houseful of chilluns, as they called it, and he'd pay them a nickle to open the gate.

WW: I think all her brothers dead. ***** those two older boys of his.

Mrs. Y.: BoPeep's living.

WW: Yes, BoPeep, that's the only one, because James, the oldest one, he's dead. And...

Mrs. Y.: Cootney?

WW: Cootney, he's dead.

JG: And those are all Scott children?

WW: All of them.

Mrs. Y.: Mary worked for me.

JG: Is BoPeep still around?

WW: BoPeep ... His daddy run it.

JG: Do you know where about he lives now?

Mrs. Y.: I know.

JG: Mrs. Young, do you know where he lives?

Mrs. Y.: I know where he's working today. Do you want to talk to him?

JG: We may want to talk to him.

Mrs. Y.: Let me call her. Can I call right now?

[tape stopped while Mrs. Young made arrangements to talk to BoPeep later]

JG: Yes, I think you told me it was 1939 when Robert Young died.

WW: Yes, it must not have been much longer than that. Because I remember I had been left from there a good while. I left somewhere around 1937. I remember that they, you know, sent the truck around all the community, all up in there where I was living, any colored people wanted to come to his funeral. I was working that day, that's the only reason I didn't attend.

JG: So you went to work someplace else when you left the mill?

WW: Yes, I worked the sawmill [in town]. One of these days, if I can get somebody can write, I'm going to write the history of my life.

JG: Sounds like a good idea. Sounds like you've done a lot.

WW: I've covered a lot of ground. I didn't plainly make no money. I mean, I done told you, when I come along, wages was so cheap. I remember working for 60 cents a day, many a day. People wasn't getting nothing until President Roosevelt come on the scene. He changes the time from working all day to working 8 hours. That's when people started, you know, wages started going up. Because I remember, we started in getting paid by the hour, not by the day, but by the hour. Before then, the highest I was making was maybe about a dollar or a dollar-half, two dollars a day.

JG: Was that what Mr. Young was paying you out there?

[Laughter from WW and Mrs. Y]

WW: I ain't going to discuss that.

JG: I was just curious. I was just curious.

Mrs. Y.: When Joe was building his house in 29, he paid a man and a mule a dollar and a half a day.

JG: A dollar and a half a day?

Mrs. Y.: So I know he wasn't making...

WW: So you can go from that. [laughter] I won't say nothing. You figure it out.

JG: I'll figure it out.

WW: But, people were living, you know. Folks were living.

Mrs. Y.: Just like we do today...

WW: We were having a good time. And I can say one thing: we never did go hungry out there. Because, you could raise hogs. And, I don't think but at the time there wasn't but two of us on the place then. My family, and Scott, Scott's family. We'd divide hogs down there. Didn't have but one hog, we'd divide the hog between us.

Then, we got plenty of fish. I know where this old lake used to be, back over behind this other place I used to be. All that water come from up there at the spring. Busted, the dam busted, and then we had to let the grist mill water out. We got down in there and picked up fish. We picked up 3 tin tubs full. Big old catfish, all kind. I happened to be standing up there. I thought it was a piece of tin I was standing on, something nearly as wide as this rug here [about 36"]. It was round, and it commenced to moving off. It was a turtle. Liked to scare me to death.

Old Scott, he wanted a turtle. I didn't want that turtle. It was too big for me. I'd never seen a turtle that big. I think he swapped me his fish for that turtle. I had fish for 100 years, seem like.

Mrs. W: No wonder you don't like them now.

WW: Young, they used to let that pond off, about twice a year. You raised them gates, you let it off. Let it off and you get out there and you go to seining. And they'd catch them big old suckers. That pond be full of suckers. Some of those suckers used to weigh anywhere from 15 to 25 pounds or more. Take them and clean them, they'd cut them up and slice them, and put them in a wash pot. They had a big old dipper with a handle on it, put them fish in there and let them ... they had a pot about half full of grease, oil, cooking oil. They'd lay them down in there and fry them, boil them. Good, boy they were good. Put some hush puppies in there and take them out. Have two or 3 big pots of coffee, 2 or 3 gallons of liquor. About all you could wish for. These white folks come out there, boy they'd have a feast. Get through, there'd be heap more left then they could eat, give the rest of it to the hands to eat up.

Mrs. W: You'd eat a sucker?

WW: Then. You could just eat it bones and all the way they cooked it. You couldn't tell there were bones in it. That's the truth. After they put them in that grease, you know. Had some good times out there.

JG: Do you know much about what went on at the mill after you left there? I know you said Mr. Scott ran it after you left?

WW: I don't know a thing.

JG: You didn't go back out there...?

WW: I never did go back.

JG: After you stopped working there, you never did go back out?

WW: I never did. I never did go back down there, because I wasn't planting or nothing like that, so ... the mill ... I didn't have no corn to carry down there. I been at the sawmill, I don't know, I don't know how long. But, through those years, I drove all through Harris County, Troup County, Meriwether County, clean down to ***** a little warehouse???? where Mr. Roosevelt supposed to have stayed at, to run the sawmill. Down Lookout Mountain. You look down those mountains and look right dead over Manchester. I

was working for this other company up there Hogansville, and this man ****

Mrs. W.: We started to move out there. [to Mrs. Young] You remember, Mr. Joe wanted me and Wiley to move out there?

Mrs. Y.: In Ira Hirshum's house. You all wouldn't do it.

WW: Well, he had moved that house where we used to live up there on the bank. He tore it down.

Mrs. Y.: The house he moved on the Hammett Road...

WW: He moved that house, and he said "I'll move it back"...

Mrs. W.: I got back to town and somebody asked me, "You going out there with all those snakes?" You mentioned them snakes, then cane snakes.

WW: I thought we was going to move back...

Mrs. W.: If hadn't mentioned snakes, I was going to come out with you. I was going to come out there with you. He mentioned those snakes...

[a lengthy discussion of snakes completes the interview]

INTERVIEW WITH MR. JOE YOUNG, 1980.

The following was transcribed by Jeff Gardner from a tape in the possession of Mrs. Helen Young. A copy of the tape is now in the Young's Mill project file. The tape apparently captures an interview with Mr. Joe Young conducted by Don Yates on July 25, 1980. A paper by Don Yates (1980) contains paraphrased information from this interview. Question marks in parentheses, "(?)", indicate unclear spelling, and asterisks, "*****", indicate inaudible sections of the tape. The interview was conducted at Mr. Young's home, Pineland Farms, and background interference on the tape is high.

Yates: I'm with Mr. Joe Young, owner of Pineland Farms. Today's date is ... The date is July 25, 1980. He's going to tell us about Young's Mill, an old sawmill and grist mill in the northern part of Troup County. Mr. Young, when was the ...

Young: On Beech Creek.

Yates: On Beech Creek. When was the ...?

Young: ... built by my grandmother shortly after the Civil War. Ground meal on one side and had a sawmill on the other side. In the winter time the neighbors would bring logs in and pile 'em up in the yard out there, and when they had plenty of water, why they'd saw 'em up and just leave 'em in a pile.

Yates: Do you know approximately what the date was, Mr. Young?

Young: That was ...

Yates: When they put the dam up?

Young: I'd say, in the 1890s ... about 1875, about a hundred years.

Yates: I've seen a map ***** 1879, I think this was the first with Young's Mill on it ... ***** ...

Young: ... about that time. Could have been there as early as 1875.

Yates: Your grandmother, now what was her name? Your grandfather was R.M. Young also? Is that correct?

Young: Yes. I think her name was Susan.

Yates: Susan E. Young?

Young: I don't know what her maiden name was.

Yates: What would you say would be the best years of the mill? I know it was there several years before you were born, but ...

Young: Before World War I.

Yates: The early 1900s were the best business part for the mill?

Young: Uh huh.

Yates: And it stayed in operation all during World War I, and through the depression?

Young: And up until World War II, when my brother, John, arranged the gates and let the water over the dam, out of the pond. When I came back from World War II, I had Roy ***** build some new gates out of creosote pine, because I wanted to see the water pouring over the dam. See, when I came out of the army in 1946, I put the water back to pouring over the dam, I didn't want to see it *****.

Yates: Well the ...

Young: I put the mill back into operation, but the government got to interfering. I had to put vitamins and other ***** into the meal in addition to straight corn, ground corn, and I didn't appreciate that, so we just turned the mill down.

Yates: Altogether it was in operation for 75, 80 years?

Young: Something like that.

Yates: It was profitable all during that time?

Young: Well it served a purpose in the neighborhood, really, to grind corn, meal for the natives. Made enough out of it to keep it open. They charged an eighth to the gallon out of every bushel. That was toll for grinding the corn.

Yates: The grist mill was ... how did it compare businesswise in activity to the sawmill?

Young: Well, there's no comparison because they kept the grist mill running ***** , and they only used the sawmill in the fall of the year and the winter when there was ample water. When it got dry in the summertime I didn't dare use the sawmill because I'd save the water for the grist mill ***** ...

Yates: How long has the land that the mill is on ... how long has it been in your family?

Young: Well it's been in the family [since] before the Civil War, because my ... the old cast iron cauldron over at the house there now, well my grandmother used to have to furnish the army so many sides of pork ... lard and what have you for the troops. And she had to cook up the lard in her cauldron.

Yates: This was your grandmother?

Young: Grandmother.

Yates: The same one that had the mill built?

Young: [no verbal response]

Yates: When did ... they always live in the house over there, or did they live on the land?

Young: They lived on the land, the house has been torn down. But the old kitchen to the house still remains.

Yates: Over where your mother's place is, across the road?

Young: That's right. Father tore the rest of the old house down and they built the present house that's there, but he left the old kitchen. There was a dog trot between the kitchen and the house. They cooked out there but they had to tote the food into the house.

Yates: Are you the ... You're the third generation to own the ...

Young: That's right. And I'll be the last. Neither one of my brothers wanted it and I have no children. So I plan to leave it to the Georgia Sheriff's Youth Ranch.

Yates: For several years there was a recreation area ... that was with the dam or the mill pond?

Young: Neither one. It was above, up the creek, it was my dad's sanctuary. He dug a swimming pool out of the side of a hill with a solid rock, ***** rock bottom. He put concrete steps around it up to a height of about 12 feet, and put a spring board in there where you could dive off into the water. Piped the water, spring water, in from the hillside with a wooden trough, that way ***** out of natural spring water. It was about the only recreation area we had here in LaGrange and Troup County at the time, and that was in the twenties. I left in '26 and it was still in operation. Left in '27, because I camped over in '26 and went out to Missouri in '27, and it was still in operation.

Yates: When you came back, had they closed up the recreation ...?

Young: No, it was still operating. I did not close it until my father's death in '39.

Yates: When did he build the recreation part on the property?

Young: Well, in the early twenties he was in the process of building on it until he died. He never did get through because he was still adding to it. Better water, and more water, and trying to build some accomodations for people to spend the week, away from town.

Yates: Sounds sort of like an early vacation *****.

Young: An early day campground.

Yates: Was this known as the "Young's Mill" back then?

Young: Well uh, he called it "Little Lake Lahleet," L-A-H-L-EE-T, for a preference that he had for a tribe of Indians up in the Pacific Northwest somewhere. He had read about, apparently they had a lake they called Lahleet and he named this one Lahleet. There's a rock still standing over there right now at the entrance that he had old Charley Dawson build to the place, where he painted on that rock, "To The Boys and Girls of Today and Tomorrow." He wanted that swimming pool maintained for the enjoyment of the children. For today and tomorrow. Which is one reason it prompted me to leave it to the Georgia Sheriff's Youth Ranch, and I hope they continue to use and improve the property, so long as they keep it.

Yates: Here in the house where we're sitting now, this has always been part of the Young family also, along with the ...?

Young: The land was. The land was given to me by my folks after I started doing my house on it, in 1928. I had open house in May, 1929, there was over 200 cars and over 700 people out here the first summer that I opened it. You saw me standing by that chimney ***** people coming all through ... I lived in the garage until I got through with the house. People come out here all hours of the day and night. So I just had to put a chain up and then when I got through with it why I had open house and invited everybody. In May, 1929.

Yates: They probably were impressed *****. Mr. Young, do you have any more comments about the mill, or about the time range in particular you might want to make ***** ?

Young: Nothing that I know of except that it was run by me. I dug it out of the wilderness.

Yates: *****

Young: Washed from the gutter ...

Yates: When did, when was the house built that your mother lived in?

Young: 1930. I started on this one in the fall of 1928
***** ...

Yates: You were the, you were considered one of the first breeders of Morgan horses in Georgia? One of the pioneers of Angus cattle in this area also?

Young: Well, I've got the oldest registered Angus, Black Angus herd under continuous ownership in the state of Georgia. Today. Back in horsedrawn days there were Morgan horses in this country but there hadn't been any for a number of years until I brought some back when I got out of the Army in November 1946. I bought a stallion and three mares. I raised them ***** ...

Yates: Going back, when you was just a young man, Mr. Young, how many, say, farm employees worked for your father, and was he a **** farmer also in *****?

Young: Well, he lost his arm when he was fifteen years old in an accident with a threshing machine. He went to the University of Georgia and graduated in Law. The farm was leased from then on. He didn't do any actual farming.

Yates: He lost his arm working on, at the mill?

Young: Yes, he lost his arm way up on the back side of the place, and they had to put him in a wagon and haul him to the house which is about a mile away, then they laid him down at the house and they had to send a little nigger boy to town on a mule to get old Doctor Ball to come out and look at it, and poor Doctor Ball came out in his buggy and looked at it, examined it and saw he was going to have to take his arm off, so he sent the little nigger boy back to town to get the necessary equipment to take his arm off, and my dad said that about 5 o'clock that evening they laid him down on the front porch and took his arm off. And I have out there the monument that ... he told me that he found him a flat rock, he held a nail, and the little nigger hit it, and he carved "R.M. Young's right arm" and the date on it. I have it out in the office somewhere. I don't know what I'll do with it.

Yates: He put this over where they buried his arm?

Young: He put this over where they buried his arm right north of the mill house down next to the creek. The mill pond. But when the government took over I didn't ... I took a dim view of leaving it there for the government to cover it, so ...

Yates: He practiced law, and leased the farm ... Well, when did you decide to be a farmer?

Young: I have no recollection, I don't remember when I started milking cows.

Yates: Just always, always done it.

Young: Well, with my job in town, and milked; that's the way I got my spending money was to sell milk up and down Hill Street. I'd get up and milk, take the cows to the pasture, and deliver milk, then change my clothes and walk about two miles to the school. Never was tardy a day in my life. The last nine years I never missed a day. This day and age the kids don't walk across the street.

Yates: Then after high school, you went to Auburn and graduated in Agriculture?

Young: Right. Yes.

Yates: When you came back after you graduated from Auburn, you went on to the University of Missouri, and ...?

Young: Majored in Poultry and minored in *****.

Yates: You came back ... This has not always been known as Pineland *****...

Young: No, I got that from my mother-in-law. She loved these pines ***** ... Some of the pines along the drive there are 4,000 board feet of lumber.

Yates: Your grandmother was the ... she and your grandfather more or less built up the place ...

Young: Well my grandfather died when my father was quite a young man, not more than a boy. Left it up to my grandmother to keep together the place and raise the family.

Yates: How many people did she employ, Mr. Young?

Young: I have no idea. But I think my great-grandfather had 50 or 100 slaves.

Yates: Your great-grandfather. What was his name?

Young: Young. I don't know. All I know is Colonel. They called him Colonel Young.

Yates: Did he ever participate in the Civil War?

Young: Maybe, possible.

Yates: Yes sir. How was ... growing up, with the Blacks on the farm, were they ***** ...?

Young: That's beyond me, before my day.

Yates: Well, if you don't have any more comments to make, then we'll just have to ***** ...

[short discussion of regional farmland conservation follows]

Yates: This concludes an interview of Mr. Joseph L. Young. We've been talking about, primarily about Pineland and Young's Mill located on Beech Creek... Thank you.

APPENDIX B
1880 U.S. CENSUS
SPECIAL CENSUS OF MANUFACTURES
TROUP COUNTY, GEORGIA

Sup. Dist. No. 4

Special Schedule of Manufactures - Nos. 7 (and 8)

En. Dist. No. 125

FLOUR AND GRIST MILLS (-CHEESE, BUTTER, AND CONDENSED MILK FACTORIES).

Products of Industry in _____, in the County of _____, State of _____

during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by me.

W. E. (s)lin

FLOURING AND GRIST-MILLS

Name of Corporation, Company, or Individual Producing to the Value of \$500 Annually	Capital Invested	Greatest No. Hands at a time in year	Ave. No. Hands			Wages & Hrs. Labor						Mo. in Op.				No. Runs Stone	Est. Max. Cap./day in Bushels	Custom or Market Production	(Grain) Elevators Capacity?	If Water Is Used					Power Used in Manufacture
			Hands			May - Nov.	Nov. - May	Ave. wages/day	Skilled Mechanics	Ave. wages/day	Ordinary Labor	Total wages/yr.	On Full Time	On 3/4 Time	On 1/2 Time					Idle					
			Males above 15	Females above 15	Children & Youth																				
1	2	3	4	5	9	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Augustus [?]	2000	1	1	1	9	6	10	1.00	.50	175	4	4	4		2	150	Qst.	White water Co. Chatahoochee	8	2	Paddle & Turbine	3	30	12	
Henry J. Henderson	2500	1	1	1		10	10	1.00	.50	125	12				2	200	"	White water Co. Chatahoochee	9	4	Rapids and Rich	3	150	12	
George W. Huguley	2000	1	1	1		6	10	1.00	.50	150	4	4	4		2	150	"	Chatahoochee Wehadkee Cr.	5	4	Rich Centervan	4	100	12	
Eagle Mills	10,000	1	1	1		12	8	1.00	1.00	275	8	4			4	300	"	Chatahoochee	5	3	Centervan	4, 5	150	24	

FLOURING AND GRIST-MILLS-Continued

Power Used If Steam	Materials			Products										Value of All Products
	Bu. of Wheat	Value	Bu. of Other Grain	Value	Value of Mill Supplies	Value of all Materials	Brln. Wheat Flour	Brln. Rye Flour	Brln. Buck-Wheat Flour	Lbn. Barley Meal	Lbn. Corn Meal	Lbn. Feed Hominy	Value of Other Products	
27	30	31	32	33	34	35	36	37	38	39	40	41	42	44
	1500	1875	3500	2625	150	4650	300				189,000	28,000		5500
	2000	2500	3500	2625	150	5275	400				188,700	35,000	300	6300
	2000	2500	3500	2625	150	5275	400				189,000	35,000		6300
	6000	7500	4000	3000	175	10,675	1200				215,600	92,000	400	13,000

Sup. Dist. No. 4

Special Schedule of Manufactures - Non. 7 (and 0)

En. Dist. No. 127

FLOUR AND GRIST MILLS (-CHEESE, BUTTER, AND CONDENSED MILK FACTORIES).

Products of Industry in Hogansville, in the County of Troup, State of Georgia
during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by me.

JDH

FLOURING AND GRIST-MILLS

Name of Corporation, Company, or Individual Producing to the Value of \$500 Annually	Capital Invested	Greatest No. Hands at a time in year	Ave. No. Hands			Wages & Hrs. Labor						No. in Oper.					No. Runs Stone	Est. Max. Cap./day in Bushels	Custom or Market Production	(Grain) Elevators?	Power Used in Manufacture																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			Males above 15	Females above 15	Children & Youth	May - Nov.	Nov. - May	Ave. wages/day Skilled mechanics	Ave. wages/day Ordinary labor	Total wages/yr.	On Full Time	On 3/4 Time	On 1/2 Time	Idle	If Water is Used						River or Stream	Horse Power	Kind	Whealy	Breadth, ft.	Rev./Min.	Horsepower																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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1 W. Norwood	2 2,500	3 2	1	1	1	10	10	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	143

FLOURING AND GRIST-MILLS-Continued

Reporting and Submitting Concerns															
Power Used		Materials					Products								
If Steam	Bu. of Wheat	Value	Bu. of Other Grain	Value	Value of Mill Supplies	Value of all Materials	Brn. Wheat Flour	Brn. Rye Flour	Lbr. Buck-wheat Flour	Lbr. Barley Meal	Lbr. Corn Meal	Lbr. Feed	Lbr. Hominy	Value of Other Products	Value of All Products
27	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
28			3000	2250	25	2275					162,000	6000			3000
29															
30															
31															
32															
33															
34															
35															
36															
37															
38															
39															
40															
41															
42															
43															
44															
45															
46															

Special Schedules of Manufactures - Nos. 7 (and 0)

FLOUR AND GRIFF MILLS (-CHEESE, BUTTER, AND CONDENSED MILK FACTORIES).

Troup
• State of
(Georgia)

during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by me.

FLOURING AND CRISP-MILLS

[illegible]

FLOURING AND GIST-MILLS--Continued																	
Power Used		Materials						Products									
If Steam	Electricity	Bu. of Wheat	Value	Bu. of Other Grain	Value	Value of Mill Supplies	Value of all Materials	Brn. Wheat Flour	Brn. Rye Flour	Lbn. Buck-wheat Flour	Lbn. Barley Meal	Lbn. Corn Meal	Lbn. Feed	Lbn. Hominy	Value of Other Products	Value of all Products	
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
					5000	3750	25	3775				270,000	10,000				4750

Special Schedule of Manufacturers - Nov. 7 (and 8)

FLOUR AND GRIEST MILLS (-CHEESE, BUTTER, AND CONDENSED MILK FACTORIES).

(XIX)

during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by me.

FLOURING AND CRISP-ROLLS

Samuel S. Pittman

FLOURING AND GRIST-MILLS--Continued

Sup. Dist. No. 4 Special Schedules of Manufacturers - Non. 7 (and 0)
 En. Dist. No. 122 FLOUR AND GRIST MILLS (-CHEESE, BUTTER, AND CONDENSED MILK FACTORIES).
 Products of Industry in 1924 & 1925, in the County of Troup, State of Georgia
 during the twelve months beginning June 1, , and ending May 31, as enumerated by me.
Samuel S. Phipps

FLOURING AND GRIST-MILLS

Name of Corporation, Company, or Individual Producing to the Value of \$500 Annually	Capital Invested	Greatest No. Hands at a time in year	Ave. No. Hands				Wages & Hrs. Labor					Mo. in Oper.					If Water is Used	Power Used in Manufacture									
			Hands				Nov. - Nov.	Nov. - May	Ave. wages/day	Skilled mechanics	Ave. wages/day	Ordinary labor	Total wages/yr.	On Full Time	On 3/4 Time	On 1/2 Time		Idle	No. Runs Stone	Est. Max. Cap./day in Bushels	Custom or Market Production	(Grain) Elevators? Capacity?	River or Stream	Type of Mill	Kind	Breadst., ft.	Total m. per day
			Males above 16	Females above 15	Children & Youth																						
1	2	3	1	1	9	7	10	0	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
B. H. Ringham	300	1	1	1	9	10	10	0	9	1.00	300	12				1	40	all	none	all	Black Creek	8	1	Turbine	3	100	20
W. B. Stripling	250	1	1	1	10	10	10			.50	100	6	6			1	25	all	none	none	all	12	1	Tub	3	150	15
John Smith	2800	1	1	1	12	10	10			1.00	250	12				1	45	all	none	none	all	10	1	Breast	18	50	40
A. Davison	2000	1	1	1	10	8	10			1.00	150	6	6			1	35	all	none	none	all	9	1	Turbine	2,500	200	18

FLOURING AND GRIST-MILLS-Continued

Power Used If Steam	Materials					Products										Value of All Products		
	Bu. of Wheat	Value	Bu. of Other Grain	Value	Value of Mill Supplies	Value of all Materials	Bu. of Wheat Flour	Bu. of Rye Flour	Bu. of Buckwheat Flour	Lbs. Barley Meal	Lbs. Corn Meal	Lbs. Feed	Lbs. Hominy	Value of Other Products	Value of All Products	1	2	3
27	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44			
28	3000	3000			25	3025	600					42,000			3650			
29	1200	1200			10	1210	240					16,800			1800			
	3500	3500			20	3520	700					49,000			4875			
	1500	1500			5	1505	300					21,000			2300			

Special Schedules of Manufacturers - Nos. 7 (and 0)

WHEAT FLOUR AND GIST HILLS (-CHIESE, BUTTER, AND CONDENSED MILK FACTORIES).

Garage 655 District _____, In the County of _____, State of _____ (2011)

during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by me.

FLOURING AND GUST-FULLS

[illegible]

FLOURING AND CRIST-MILLS-Continued

[illegible]

Special Schedules of Manufactures - Nos. 5 (and 6)

LUMBER MILLS AND SAW-MILLS (-BRICK YARDS AND TILE WORKS).

Troup, State of

during the twelve months beginning June 1, 1879, and ending May 31, 1880 as enumerated by mo.

(ix)

LUTHELI AND LAW-MILLS

Name of Corporation, Company, or Individual Producing to the Value of \$500 Annually	Capital Invested	Greatest No. Hands at a time in year	AV. NO. HANDS			WAGES & HIG. LABOR				MO. OPER.			SAVS				MATERIALS		SALE-UNIT PRODUCTION						
			Men above 15	Women above 15	Children & Youth	May - Nov.	Nov. - May	Av. wages/day Skilled Mechanics	Av. wages/day Ordinary Labor	Total wages/year	On Full Time	On 3/4 Time	On 1/2 Time	No. of Gangs	No. Saws/Gang	No. Circular Saws	No. Band-saws	Value of Logs	Value of Mill Supplies	Net Value of Manufacture	No. of Pieces				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Thomas Perry	500	1	1	1	10	10	10	10	.50	100	6	6	1	1	1	1	500	55	555	175	175	24	25	26	
Samuel Hardy	1500	1	1	1	10	10	10	10	.50	100	9	3	1	1	1	1	800	50	850	200	200				
Allen Davison	1200	1	1	1	10	10	10	10	.50	100	8	4	1	1	1	1	500	50	550	180	180				
John Smith	1200	1	1	1	10	10	10	10	.50	100	8	4	1	1	1	1	500	50	550	175	175				
Willard Newsum	1000	1	1	1	10	10	10	10	.50	100	10	2	1	1	1	1	800	50	850	200	200				

PROPER SAW-MILL PRODUCTS		MANUFACTURE				FROM WHAT REGION DO YOU PRO- DUCE LOGS?		DOES YOUR OR ANY OTHER VESSEL CARRY LOGS?		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED IN CLEAN- ING LOGS		KIND		IF WATER IS USED 	
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